Appendix A – Geological Expansion Dictionary

A printed version of the Power*Log / Curve geological expansion dictionary

Appendix B – Power*Log / Curve / Core Reports

An example of various Power*Log / Curve / Core Reports and Types and saved in the PS and TV Report directories

Appendix C – Power*Log / Curve / Core System Logs

A hard copy version of the Power*Log / Curve / Core System Logs

Power*Log / Curve / Core Tutorials

A printed version of the Power*Log / Curve / Core Tutorials

Quick Reference Guide

Annotations:

Carbonate Texture Layer

Core:

Core Descriptions:

Curves:

Curves Fills:

Dates:

Geological Dictionary:

Grain Size Layer

Favorites Toolboxes / Right Click Favorites:

Graphics:

Importing ASCII Data

Interpreted Lithology:

LAS:

Layers:

Lithology Descriptions:

Logs:

Metafiles / System Symbols:

Porosity Grade Layer

Sample Descriptions:

System Options:

Tracks:

Wells:

Well End Reports:

Introduction

Power*Log / Core & Curve™ (Petrographical Office and Wellsite Evaluation and Reporting) is a chip sample and core logging program that utilizes single-entry data capturing to produce geological striplogs and corelogs. The geological data is entered into the system through the use of intuitive data entry forms to ensure standardization of data. This data is stored in an RDBMS (Relational Database Management System) to allow data manipulation using SQL (Structured Query Language) access tools.

Power*Log / Core & Curve™ Software consists of Four (4) Main Sections:

1. A log editor module that allows you to change the striplogs to suit your needs and preferences.
2. A data transfer module.
3. Report printing modules.
4. An on-line help system that is designed to familiarize you with the commands and functions available in Power*Log / Core & Curve™ and lead you through many of the processes involved in creating logs.

Starting Power*Log / Core & Curve™…

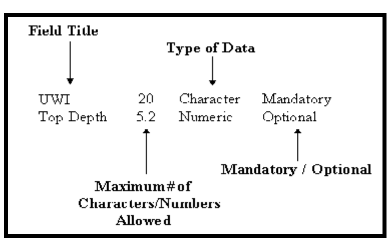
1. Double click on the Power*Log / Core & Curve™  icon. This brings you into the Power*Log / Core & Curve™ program. The first window to appear will be the Security window with the registration and copyright information. **Click** on the OK **button** to acknowledge the window. A Connect Database window will immediately appear. See the "Connect" section, later in this User Manual to learn more about how to connect to a database.
1. Highlight the **PGEOLOGY V12 METRIC (Microsoft Access Driver [*.mdb])** database by **clicking** on it once, if it is not already highlighted.
2. Move your mouse pointer to the **User ID** data field and **click** once to activate a flashing cursor in the **User ID** field. Then, type **pgeology** in the **User ID field**. Press the **Tab** key on the keyboard.
3. Type **pgeology** in the **Password** field and then **click** on the Connect **button**. The program will now load various dictionaries and will activate an **Open Log** window.
4. **Double click** on a log to open an existing log or click on the **New Log**  **button** to start a new log/well. You are now in the **Power*Log / Core & Curve™** environment.

Navigating through Power*Log / Core & Curve™:

When you are entering information into data forms, you may move between boxes/fields by pressing the **Tab** key to go forward and **Shift +Tab** to move backwards. To exit forms that do not have an **Exit, OK,** or **Cancel** button, press the **Esc** key on the keyboard.
The various fields located in the **Power*Log / Core & Curve™** dialog boxes have character restrictions. **"Field Restriction Tables"** are provided in this manual that provide a useful reference to help you enter the appropriate amount of characters or numbers in each field.

Reading the Field Restriction Tables:

The tables have four columns each and resemble the example table shown below:



For numeric fields, the maximum amount of numbers allowed is represented on the table as a decimal. The number that precedes the decimal indicates how many numbers you may place before a decimal point and the number following the decimal represents how many numbers may follow the decimal point.

For example: If the number on the Field Restriction Table is 5.2. You may place five (5) digits before the decimal point and two(2) digits after the decimal point. The range of numbers available, in this particular case, is -99999.99 to 99999.99. If you enter too many numbers in a field, your current record will not be saved. Instead, the offending field is highlighted and an error message appears in the lower left side of the **Status Bar**.

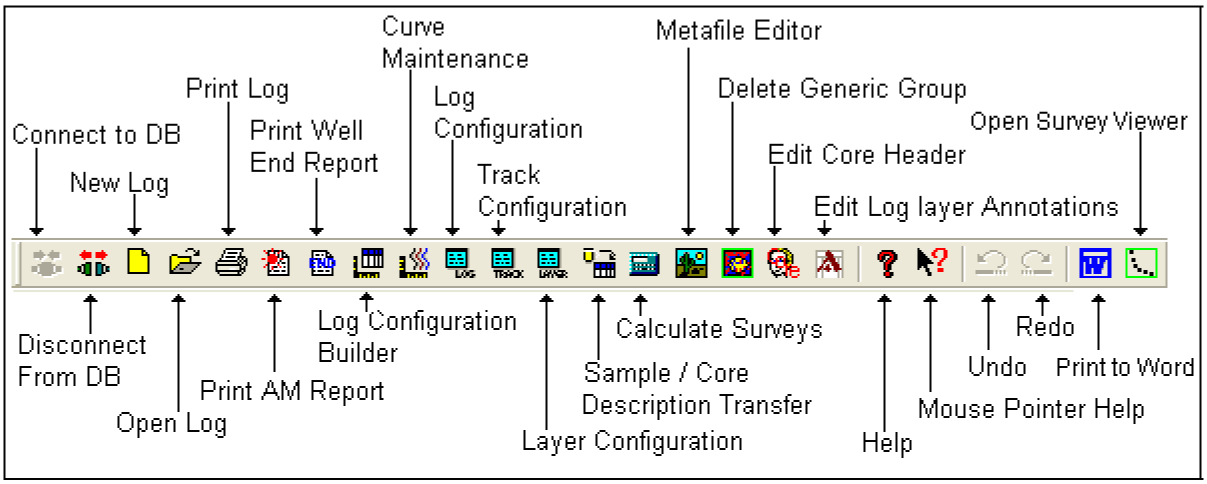
Any key on the keyboard is considered a character, so you may place letters, numbers, and symbols in any **CHARACTER** field. You may enter as many characters as that field allows (this is represented as a whole number on the **Field Restriction Table**). If the field is categorized as DATE FORMAT, then you must use the proper date and time format that you have selected in your **System Options**.

If a field is MANDATORY, it must be filled in before you can save a record. **Power*Log / Core & Curve™** uses these mandatory fields to identify records in the database. Therefore, if you have not filled in a mandatory field and you try to save the record, the offending field is highlighted and an error message appears in the lower left side of the **Status Bar**.

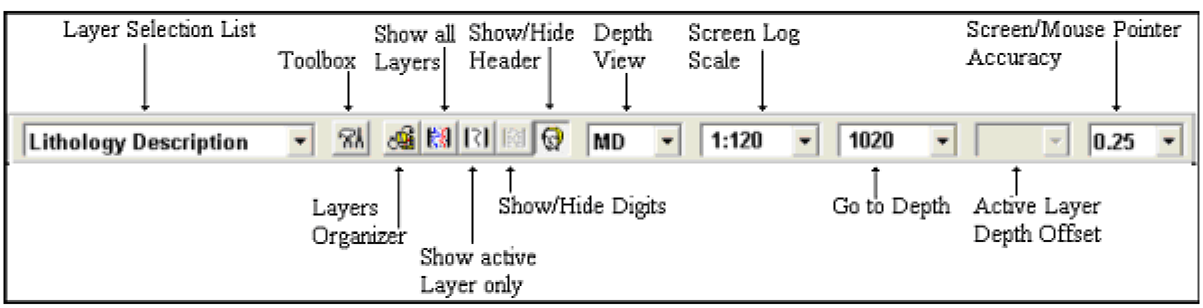
Accessing the On-line Help System in Power*Log / Core & Curve™:

You can make use of the context sensitive help by pressing the **F1** key when you are in a dialog box. A pertinent help file will appear, opened to the topic relevant to the dialog box you are in.

The Toolbar



The Selection Bar…



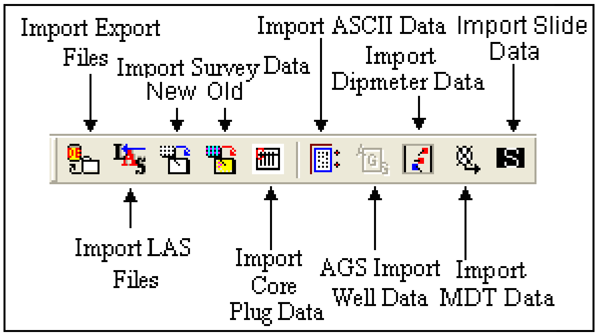
The Status Bar…

The **Status Bar** displays system status messages and any error message (associated with a field entry), in the far left corner. The KB elevation is displayed in the lower right corner of the **Status Bar**.

The Import Toolbar

This toolbar is dock able and can be moved to different places on the screen.

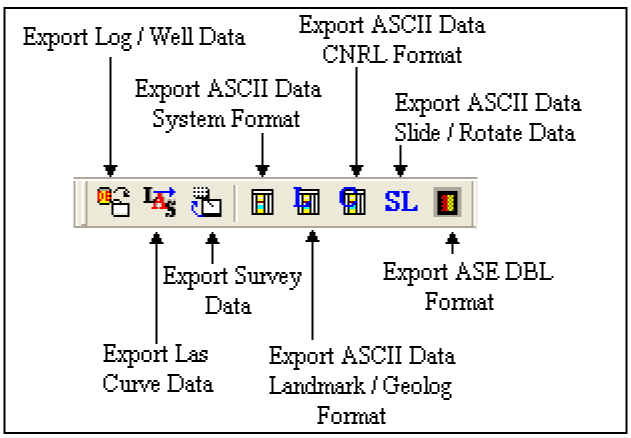
The Power*Log / Core & Curve™ Import Toolbar…



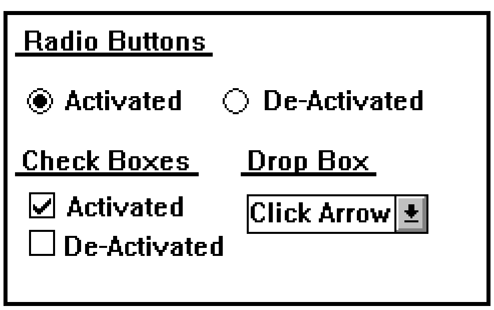
The Export Toolbar

This toolbar is dock able and can be moved to different places on the screen.

The Power*Log / Core & Curve™ Export Toolbar…



Button, Check box and drop box types.



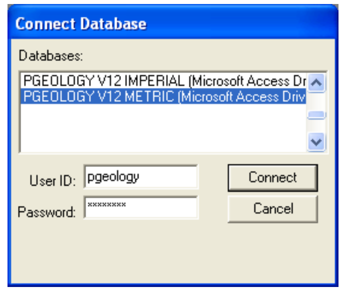
<u>The Four (4) Main On-line Help System Categories:</u>

Commands - Descriptions of each menu command within Power*Log / Core & Curve™.
Toolbar - Shortcuts to common commands are explained.
Database Table Operations - Commands or functions related to the Database Table are described.
Quick Reference Guide - The portion of the On-line Help System that quickly refers you to some of the more commonly performed tasks.

Chapter One - File Menu

Connect

Connects Power*Log / Core & Curve™ to a database.
To access the **Connect Database** window, click on **Connect**, under the **File menu** selection, or click on the  **Connect** button on the Toolbar.



Connecting to a Database

1. When this window is displayed, highlight the **PGEOLOGY V12 METRIC {Microsoft Access Driver)*.mdb)]** database.
2. Enter your **User ID** and **Password** in their respective fields (your default User ID and Passwords are both "**pgeology**").
3. **Click** on the  **button** to complete the connection.

Disconnect

Disconnects Power*Log / Core & Curve ™ from a database.

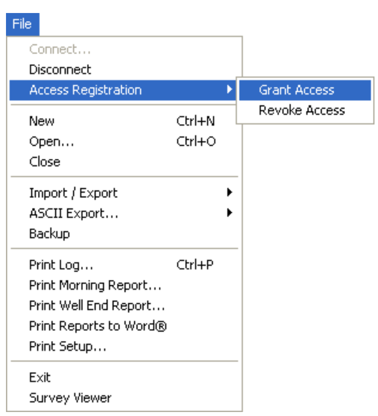
Disconnect  button on the **Toolbar**

Grant Access

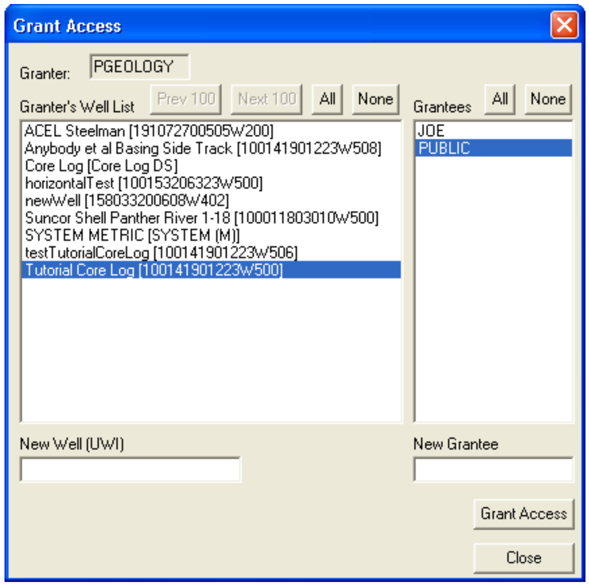
The **Grant Access** window provides the **Network Administrator** and/or **Power*Geology Superuser**(displayed in the **Granter** field in the upper left corner of the **Grant Access** window), with the ability to control which network users gain access to specific well information or data residing within the **Power*Geology** network database.

Granting Access to existing Grantees

1. **Click** on **Access Registration**, under the **File** menu selection, and then **click** on **Grant Access**.



This will activate the **Grant Access** window shown on the next page:



2. Select (highlight) the well(s) from the **Granter's Well List** field that you wish to give a specific **Grantee** or **Grantees** access to.
3. Select (highlight) the **Grantee(s)** from the **Grantees** list field that will be given access to the well you selected earlier from the **Granter's Well List** field.
4. **Click** once on the Grant Access **button** and you will receive the following system message, "**Do you really want to GRANT access?**"
5. **Click** once on the Yes **button** to give the selected **Grantee(s)** access to the selected well(s).

Note: Use **PUBLIC**, in the **Grantees** list field, to give ALL of the **Grantees** access to selected well(s).

Granting Access to a new Grantee

1. **Click** on **Access Registration**, under the **File** menu selection, and then click on **Grant Access** to activate the **Grant Access** window.
2. Select (highlight) the well(s) from the **Granter's Well List** field that you wish to give the new **Grantee** access to.
3. Type the name of the new **Grantee** into the **New Grantee** field.
4. **Click** once on the Grant Access **button** and you will receive the following system message, "***Do you really want to GRANT access?***"
5. **Click** once on the Yes **button** to give the new **Grantee** access to the selected well(s).

Granting Access to a new well

Note: Situations will arise in which existing **Power*Log/Curve** users have not yet been given access to a well that was recently or soon to be spudded. Accordingly, the **Network Administrator** and/or **Power*Geology Superuser** will use the **UWI** from the new well to grant access to the selected **Grantee(s)**.

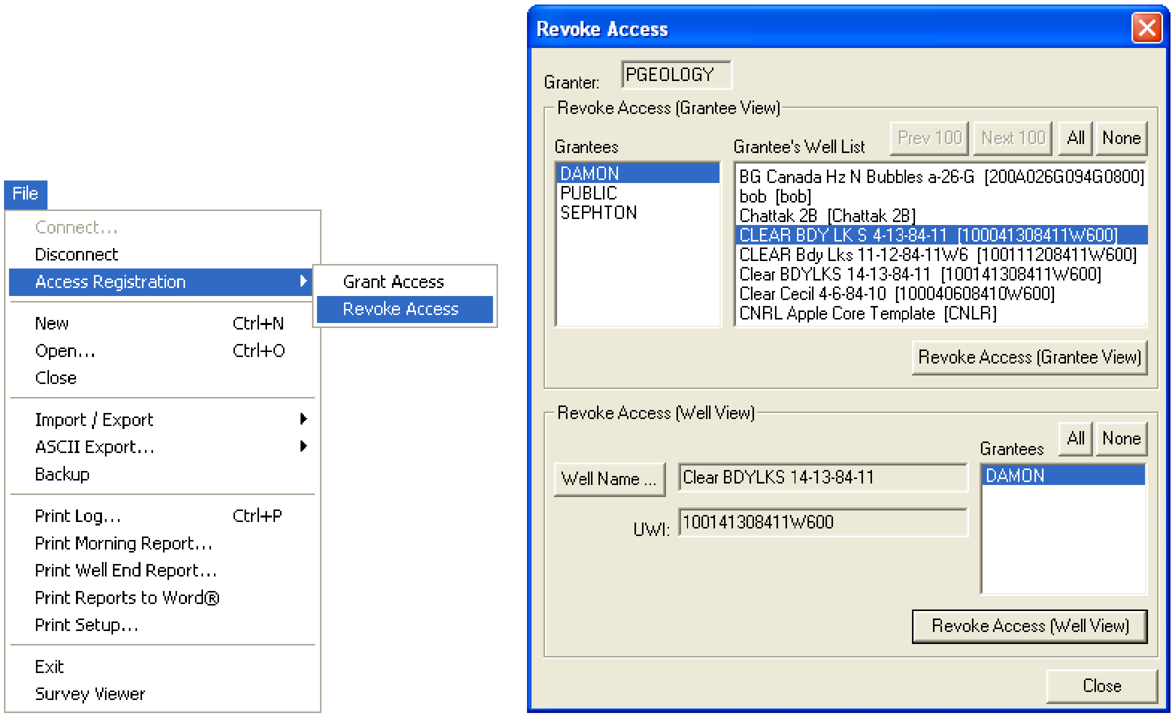
1. **Click** on **Access Registration**, under the **File** menu selection, and then click on **Grant Access** to activate the **Grant Access** window.
2. Type the **UWI** of the new well into the **New Well (UWI)** field.
3. Select (highlight) the **Grantee(s)** from the **Grantees** list field that will be given access to the new well.
4. **Click** once on the Grant Access **button** and you will receive the following system message, "***Do you really want to GRANT access?***"
5. **Click** once on the Yes **button** to give the selected **Grantee(s)** access to the new well.

Revoke Access

The **Revoke Access** window provides the **Network Administrator** and/or **Power*Geology Superuser** (displayed in the **Granter** field in the upper left corner of the **Revoke Access** window), with the ability to revoke the access of specific network users to specific well information or data residing within the **Power*Geology** network database.

Revoking Access to existing Grantees…

1. Select **Access Registration**, under the **File** menu selection, and then click on **Revoke Access** to activate the **Revoke Access** window shown below:



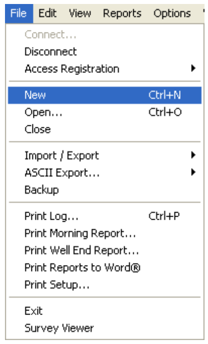
2. Select (highlight) a specific **Grantee** from the **Grantees** list field to determine what wells in the **Grantee's Well List** field the **Grantee** currently has access to.
3. Select (highlight) the well(s) from the **Grantee's Well List** field you wish to revoke access to for the previously selected (highlighted) **Grantee**.
4. **Click** on the **Revoke Access (Grantee View) button** and you will receive the following system message, "*Do you really want to REVOKE the selected wells from the selected user?*"
5. **Click** on "***Yes***" to revoke the access of the selected **Grantee** to the selected well(s) in the **Grantee's Well List** field.

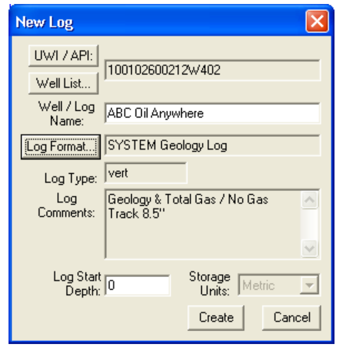
Revoking Access to a selected well

1. Select **Access Registration**, under **File**, and then click on **Revoke Access** to activate the **Revoke Access** window.
2. **Click** on the **Well Name button** to activate the **Well List** window.
3. **Double click** on the desired **Well** from the **Well List** window to display it in the **Well Name** and **UWI** fields within the **Revoke Access** window.
4. Select (highlight) the **Grantee(s)** from the **Grantees** field for whom you wish to revoke access to the selected well.
5. **Click** on the **Revoke Access (Well View) button** and you will receive the following system message, "*Do you really want to REVOKE the selected users from the selected well?*"
6. **Click** on the "**Yes**" **button** to revoke the access of the selected **Grantee(s)** to the selected well displayed in the **Well Name** and **UWI** fields, respectively.

New Log

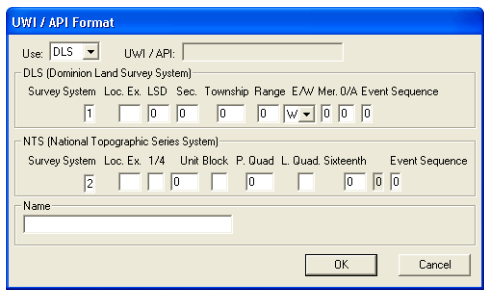
1. The first step in creating a new log is to click on the  **New Log button** on the **Toolbar**, or to select **New** from the **File** menu selection. This will open the **New Log** window shown below:





2. The Cursor will be active in the Well / Log Name field. **Type** in the **Well Name** into the Well / Log Name field (maximum of **50** characters). On a new well the well name and the log name will be the same.

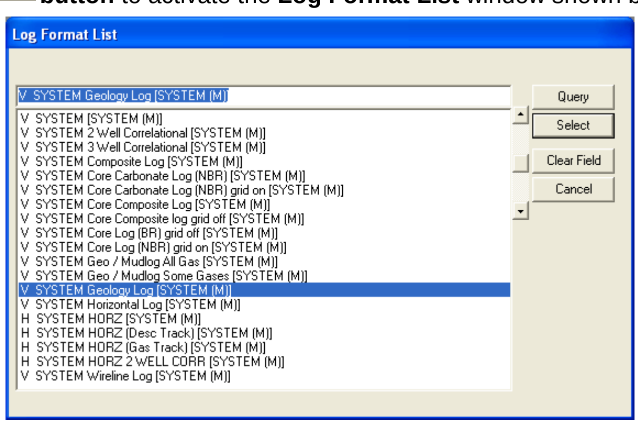
3. **Click** on the  **button** to activate the **UWI Format** window shown below:



4. Select the Survey System from the **Use** drop box. The **DLS** (**Dominion Land Survey**) system format is for Alberta, Saskatchewan, Manitoba and some of BC. The **NTS** (**National Topographic Survey**) system is for most of BC. The **Name** selection is to be used for anything that doesn't fit into the **DLS** or **NTS** systems. Once your selection has been made, it is displayed in the drop box, and a flashing cursor is placed in the first appropriate field, awaiting your data entry.
5. Type in your data and remember that you can press **Tab** to move to the next field and **Shift+Tab** to move backwards.

6. **Click** on the  **button** when you have finished entering the **UWI**. An extended **UWI** is created by **Power*Log / Core & Curve ™** from the many small boxes that you just filled in. You will now be in the **New Log** window again.

7. **Click** on the  **button** to activate the **Log Format List** window shown below:



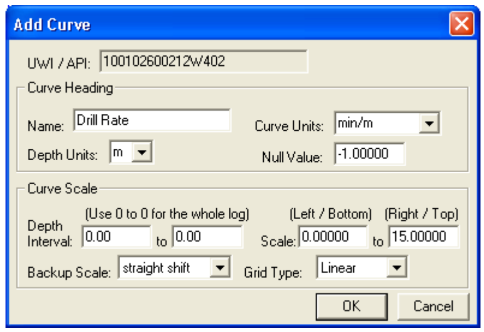
8. **Click** once on the format you wish to use for your log and then **click** on the Select **button.** You may also **double click** on the desired format, where upon you will be returned to the **New Log** window.

<u>Note</u>: Log Formats with the letter "**V**" in front of their names are Vertical logs, and can only be used within **Power*Log™**. Log Formats with the letter "**H**" in front of their names are Horizontal logs, and can only be used within **Power*Curve™**.

9. **Double Click** in the **Log Start Depth** field. This will highlight the Zero, and activate a flashing cursor. Type the depth at which you want your log to start.

10. Once the information is entered, **click** on the Create **button**.

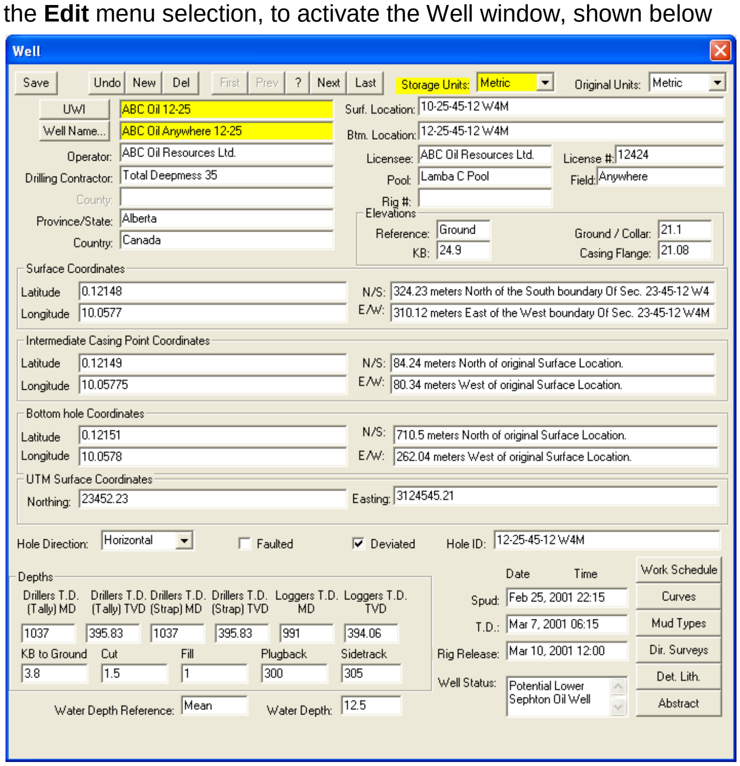
<u>Note</u>: This will initiate a **New Log**. During this process, the curves associated with the selected log format will be added and **Add Curve** windows may be activated for each curve within that log format. An example of an **Add Curve** window is shown below.

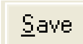


11. **Click** on the OK **button** for each **Add Curve** window and you will have just added curves to the database that are displayed on the layers with the same name.

<u>Note</u>: You may edit any of the curve's properties in the **Add Curve** window. For more information, see **"Adding Curves"** in **Chapter Ten**.

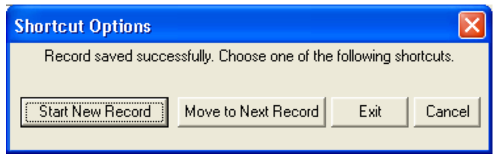
12. You can now edit, or add information in the Well Header Information window.
13. **Select Well**, under the **Edit** menu selection, to activate the Well window, shown below



14. Fill in the information you feel is necessary (the picture above is filled in to give you an idea of what is required), and then **click** on the  **button** to save any changes you have made to the database.

<u>Note</u>: Some of the fields in the **Edit Well** window have character restrictions or mandatory requirements. Consequently, if any of these restrictions have been violated or if any requirements have not been met, the offending field will be highlighted, the nature of the problem will be displayed on the **Status Bar** (lower left hand corner of the screen), and you will be prompted with a system error message window.

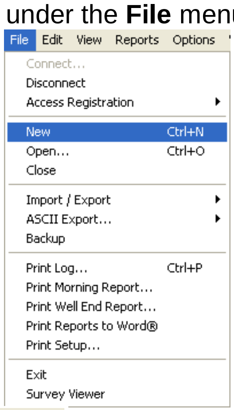
15. If the record has been successfully saved, **click** on the appropriate button when prompted with the **Shortcut Options** system window.

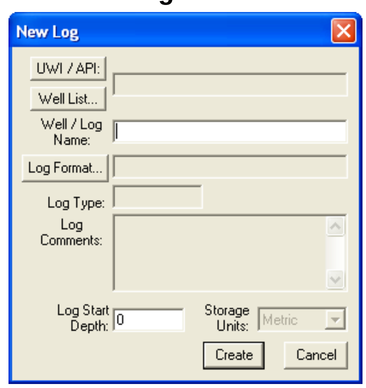


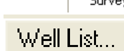
Starting a New Log with an Existing Well

An example of doing this would be to create a Horizontal Log presentation for an existing vertical well in the database. You would use the vertical presentation (either MD, SSL. or TVD) and when the well reached 90 degrees you would start up a Horizontal. Also you could have a wellsight sample log and then incorporate the Samples with the Wireline data to have a composite log presentation.

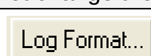
1. The first step in creating a new log is to click on the  **New Log button** on the **Toolbar** or to select **New**, under the **File** menu selection, and the **New Log** window will be opened.





2. Click on the  **button** to view the wells in the database. Then, **double click** on the well of your choice to automatically fill in the **UWI** and **Well/Log Name** fields. The user can then modify the **Well/Log Name** field to suitably reflect the **Log Format** (Vertical or Horizontal), to be used to display the existing well's data.
3. **Type** a name for your log in the **Well/Log Name** field (no more than **50** characters long). The original Log name will be viewed in the **Log/Name** field. The Log name must be unique in the database. The user must modify the name by adding / removing or creating a new name.

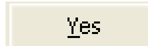
<u>Note</u>: This does not change the well name; it only changes the log name.

4. **Click** on the  **button** to activate the **Log Format List** window.
5. **Click** on the **Log Format** you wish to use for your log and then **click** on the  **button.** Alternatively, you can simply **double click** on the desired **Log Format** and you will be returned to the **New Log** window with your selection appropriately displayed.

<u>Note</u>: Available Logs with the letter "**V**" in front of their names are <u>Vertical</u> logs and can only be used within **Power*Log/Core™**. Likewise, **Available Logs** with the letter "**H**" in front of their names are <u>Horizontal</u> logs and can only be used within **Power*Curve™**.

6. **Double Click** in the **Log Start Depth** field to highlight the numeral zero (**0**) and activate a flashing cursor. Then, type in the depth at which you want your log to start.

7. Once the information is entered, **click** on the 

button. If you have associated an existing well with the log, you will be prompted with yet another system message, "**You are about to create a new log for an existing well. Do you want to proceed?**" **Click** on the 

button to confirm.

<u>Note</u>: This will initiate a **New Log**. During this process, the curves associated with the selected log format will may be added in the form of **Add Curve** windows, for each curve within that log format, with their associated units and scales.

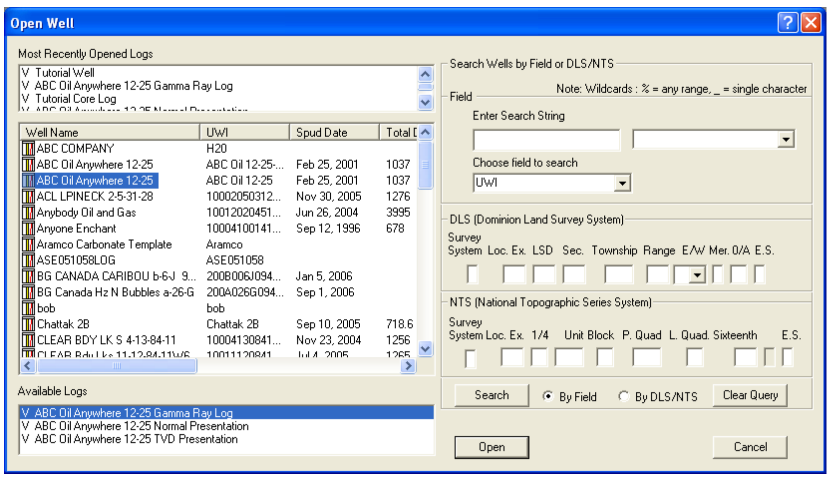
8. **Click** on the 

button for each **Add Curve** window and you will have just added curves to the database that are displayed on the layers with the same name in/on your log.

How to Change the API code or the Unique Well Identifier (UWI)

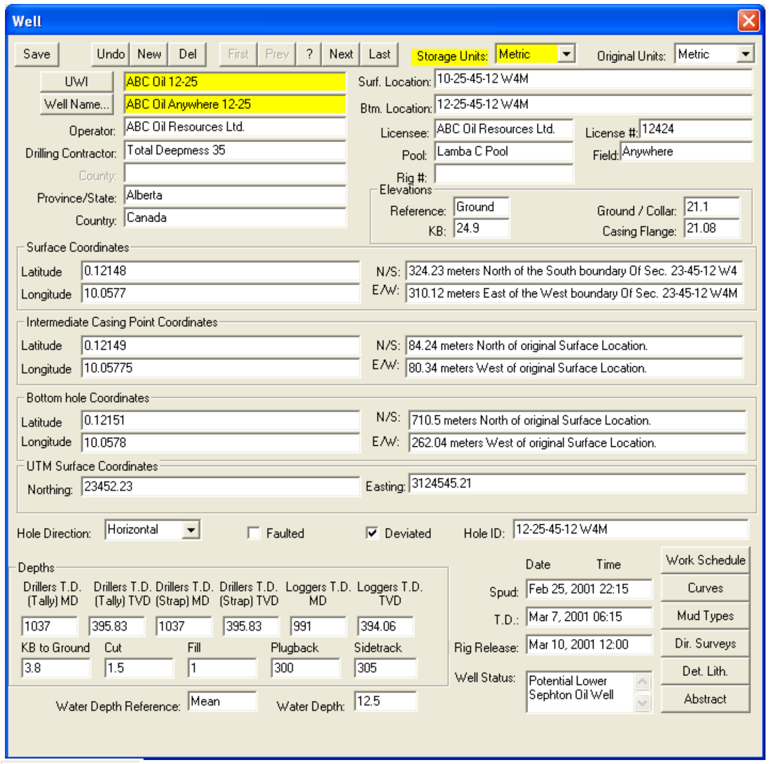
This procedure will guide the user through the appropriate steps to change the API code or the UWI.

1. **Click** on the  **Open Log button** or select **Open**, under the **File** menu selection, to activate the **Open Log** window.

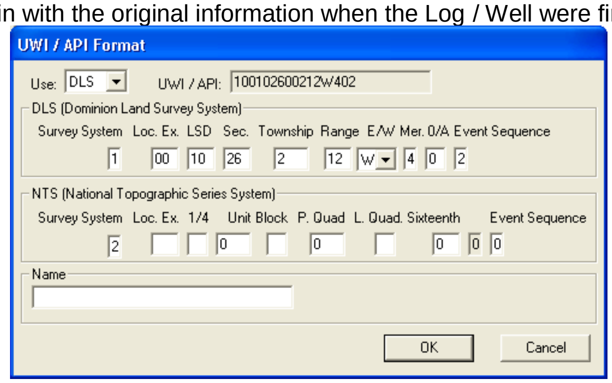


2. **Highlight the Well Name** that you wish to change the UWI / API, in the **Well List** portion of the window, and the logs for that well will appear in the Log List portion of the window. Highlight or **click** on any of the logs available for that well in the **Log List**. Then, **click** on the 

button and the selected well / log will open accordingly
3. **Click** on the **Well** selection, located under the **Edit** menu selection on the Menu bar. This will activate the Well Window.



4. **Click** on the UWI **button** in the Well window to activate the appropriate window shown below: This window will be filled in with the original information when the Log / Well were first created.



5. **Click** your mouse cursor into the **appropriate fields** either in the DLS section, NTS section or the name section and make the necessary changes.

6. **Click** on the OK **button**.

7. **Click** on the Save **button**. If the well record has been saved you will be prompted with a 4 option system message.

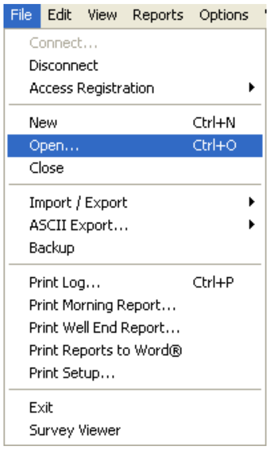
8. **Click** on the Exit **button**.

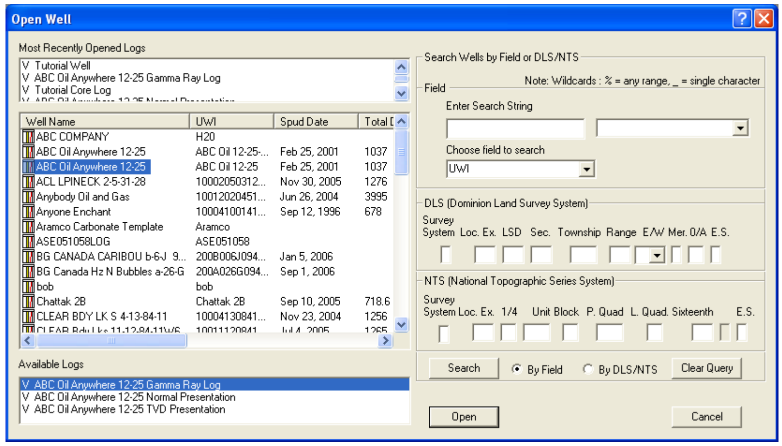
You have now successfully changed the UWI or API Code for a well. We have automated all the logs associated with the original Well to be reallocated with the new Wells UWI. For your information all data for a well is stored under the UWI and not the well name.

Open

Opens an existing log

1. **Click** on the **Open Log button** or select **Open**, under the **File** menu selection, to activate the **Open Log** window.





2. Locate the well you wish to open either by querying or scrolling through the Well List portion of the window and **Click** on the **Well Name** so it becomes highlighted, and the logs available for that well will appear in the **Log List** portion of the window.
3. **Click** on the **log name** you want to open. It will become highlighted.
4. **Click** on the Open **button** and the selected log will open accordingly. Please keep in mind that **Power*Log / Core & Curve™** allows you to have <u>multiple</u> logs open at once.

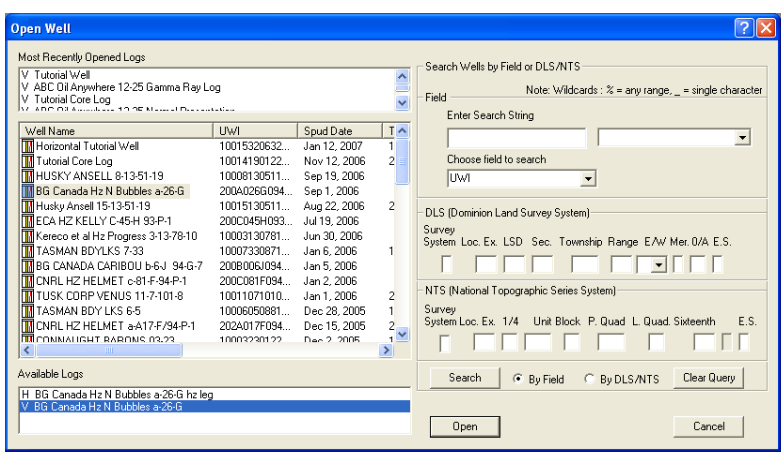
The **Recent Logs** portion of the window indicates the last 10 logs / wells opened. You may wish to select one of these rather than looking through the well list. Also if you are reopening the last well used it is already highlighted in the Recent Logs list and can be reopened easily by clicking on the Open **button** or by depressing your enter key on your keypad.

<u>**Note**</u>: **Logs** with the letter "**V**" in front of their names are <u>Vertical</u> logs, and can only be used within **Power*Log™** or **Power*Core™**. Likewise, **Logs** with the letter "**H**" in front of their names are <u>Horizontal</u> logs, and can only be used within **Power*Curve™.**

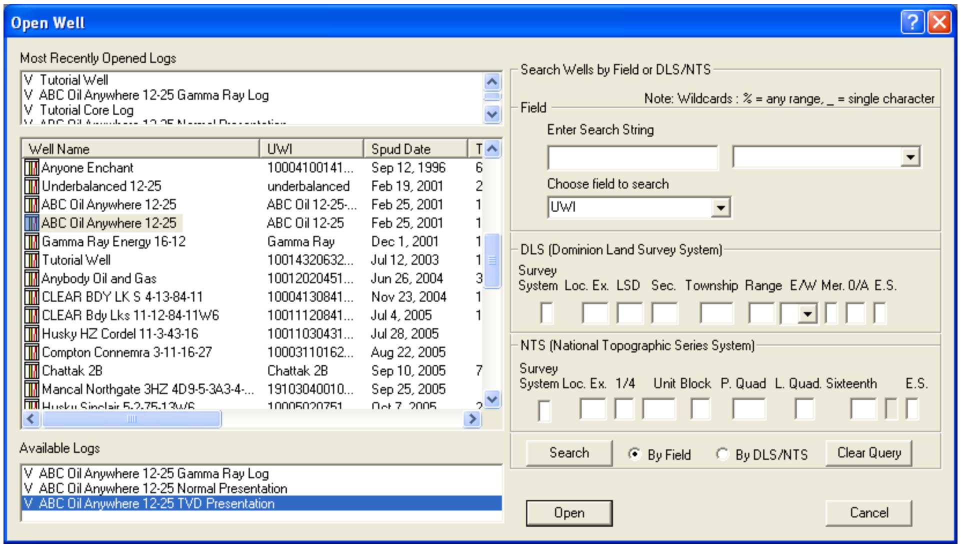
How to Sort the Well List

(Well Name, UWI, Spud Date, Total Depth, Field, Pool, Hole Direction, Province/State, License #)

1. **Click** on the **Open Log button** or select **Open**, under the **File** menu selection, to activate the **Open Log** window.

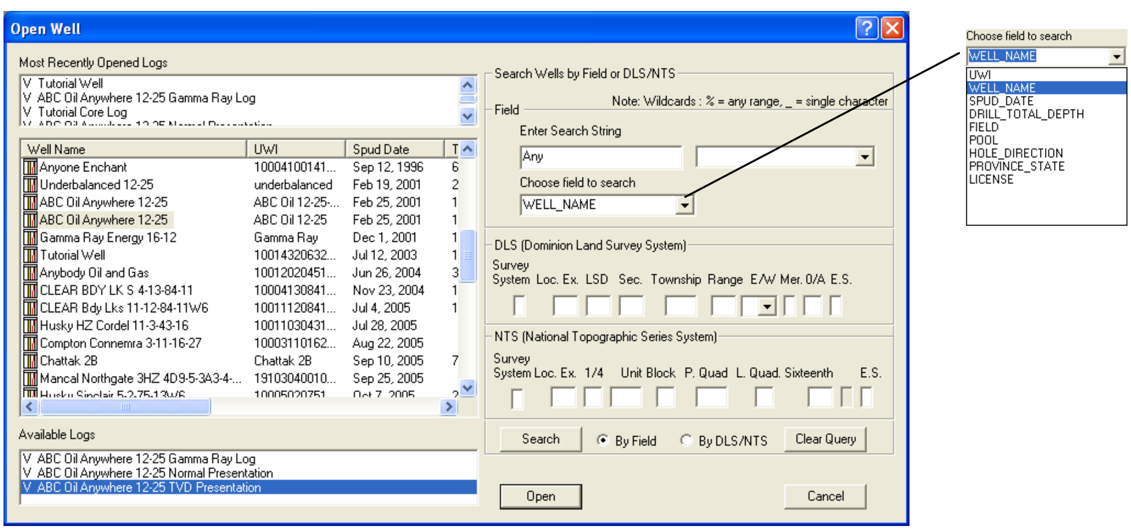


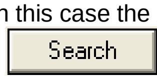
2. The default sorting in the Open Log window is on Well Name. If you wish to sort on any other criteria, you simply have to **click on its heading indicator** at the top of the Well List. By doing so, you will sort the window with respect to that criterion. The Example above is sorted by spud date in ascending order. If you click on the heading indicator again it will reverse the order as shown in the example below with Spud date in descending order.



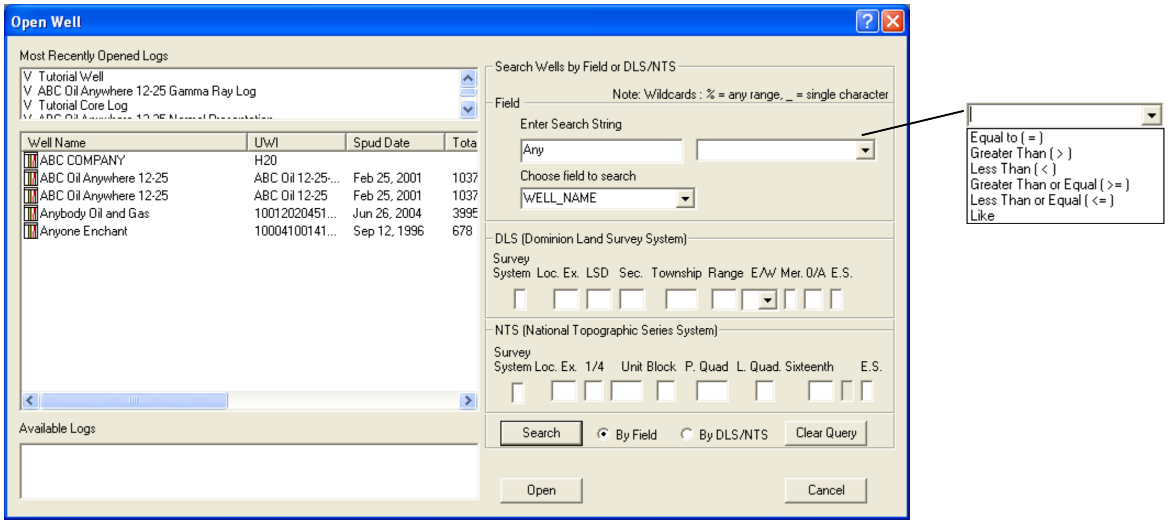
How to Query the Well List (By String Search)

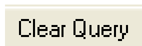
1. **Click** on the  **Open Log button** or select **Open**, under the **File** menu selection, to activate the **Open Log** window.



2. **Choose** the field to search criteria by clicking on the drop arrow in the search portion of the window. This will activate a drop list and click on your selection. You have many field strings to search with. Then **type in your search criteria** in the Enter String **field**. The example shown above is any **Well Name** with **ANY** in it anywhere.
3. You can **choose a search type** in the drop box beside the Search string you have type or selected. The default is **like** so if in this case the ANY can be anywhere in the well name.
4. **Click** on the 

button. This will redo the Well List with those Well Names that meet the specific criteria. The search results are shown below.

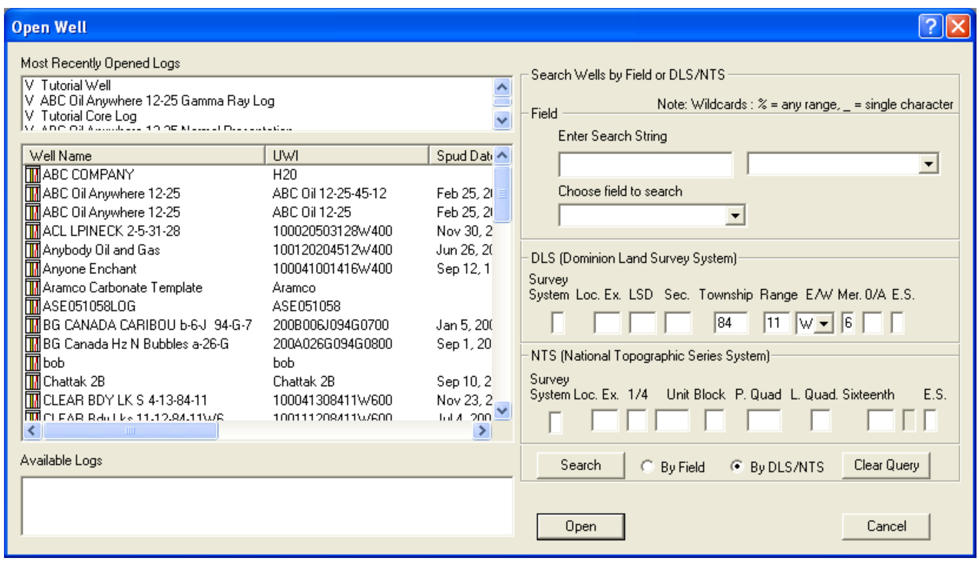


5. **Click** on the 

button to refresh the list with all the Wells in the database.

How to Query the Well List (By DLS or NTS Survey Systems)

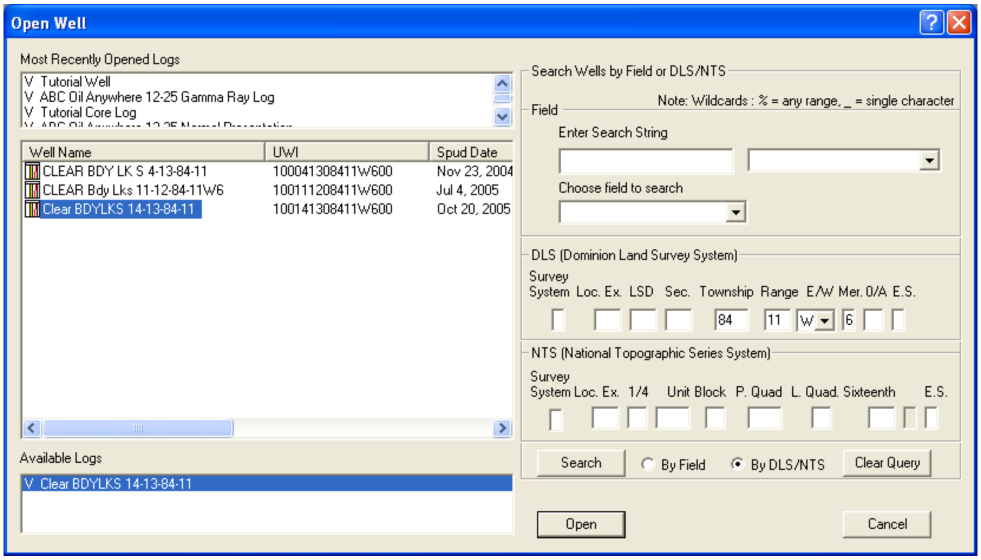
1. **Click** on the  **Open Log button** or select **Open**, under the **File** menu selection, to activate the **Open Log** window.

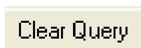


2. Type in the fields to search by utilizing either the DLS or NTS Survey system that was used to create the UWI. The example shown above is Township 84 Range 11 and the 6th Meridian

3. **Click** on the 

button. This will redo the Well List with those Well Names that meet the specific criteria. The search results are shown below.



4. **Click** on the 

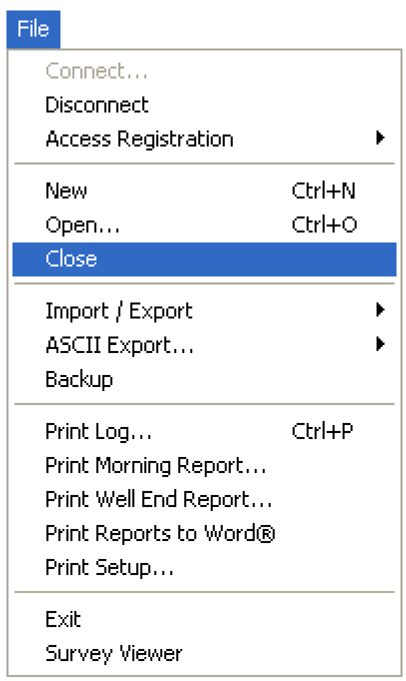
button to refresh the list with all the Wells in the database.

Close

Closes the currently active log

Click on **Close**, under the **File** menu selection, to close the current or active well or **click** on the  icon.

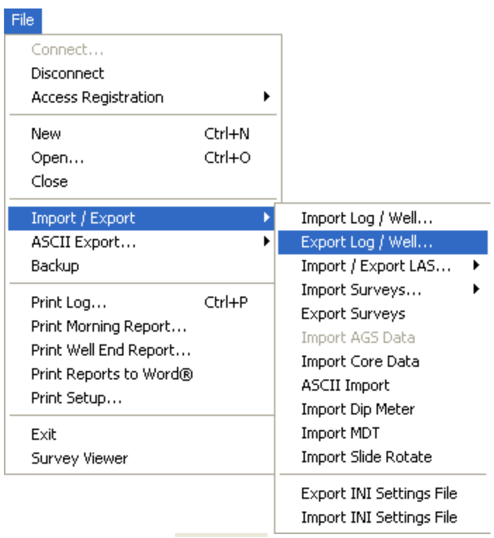
Note: You do not have to save any changes prior to closing a log, because all work performed on a log is automatically saved to the **Power*Geology** database.

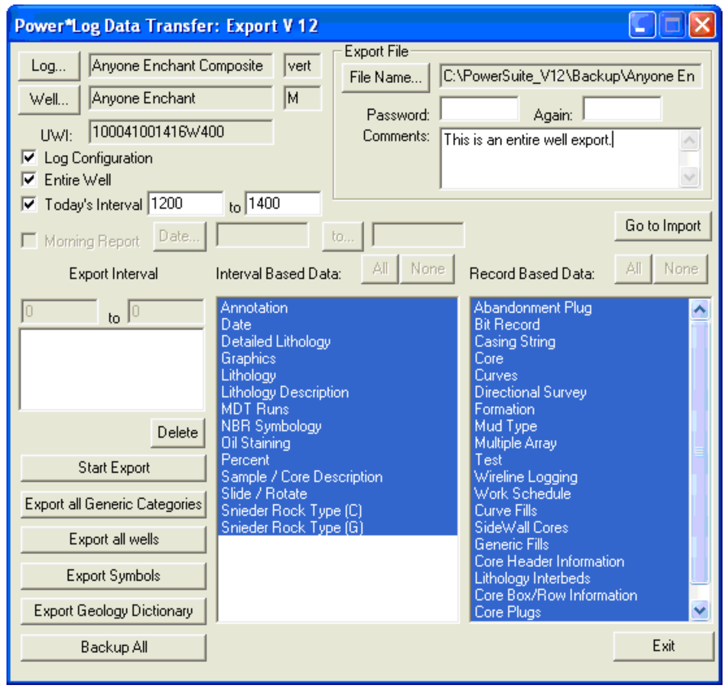


Export Log / Well

Allows you to export log configurations, well information, system symbols and your Geology Expansion Dictionary

Under the **File** menu selection, select **Import / Export** and then select **Export Log / Well** from the sub-menu. Or, you can click on the **Export button** on the **Toolbar**.
When you enter the **Export** window from the main **Power*Log / Core & Curve™** screen, the **Export Log/Well** window automatically defaults to the currently active log.





1. **Click** on the Log... **button** to activate a list of logs in your database. Then, select the log for export by **double clicking** on it.
2. If the log has a Primary Well associated with it, the **Well** field will default to the Primary Well. If there is no Primary Well or you wish to export a different well, select the well to be exported by **clicking** on the Well... **button** to activate a list of the Wells available in your database. Then, **double click** on the well that you wish to export.
3. The **Log Configuration** check box should be activated (checked), when you are exporting a log for the first time or if you have changed the log's track or layer configurations.
4. The **Entire Well** check box should also be activated (checked), if you are exporting your well for the first time.

Note: This is a good way to back-up your well's information and should be done on a daily basis, so that if your database becomes corrupted or your hard drive fails, you have a way to restore or recover your data.
If you are transmitting your files to another location on a daily basis, the **Entire Well** check box should be used until the file size (and resulting transmission time), becomes too large. After this point, it is recommended that you use the **Morning Report** check box, instead, to export only a portion of your well's morning data and should be used in conjunction with the **Export Interval** portions of the window, including **Interval** and **Record Based Data**.

5. Activate the **Today's Interval** check box and then enter a set of values into **Today's Interval**.

Note: The values entered into **Today's Interval**, within the **Export Log/Well** window, will automatically be displayed in the **Today's Section** print interval part of the **Print Log** window when the log/well is imported.

6. If you activated the **Entire Well** check box, please proceed to **Step 11**.

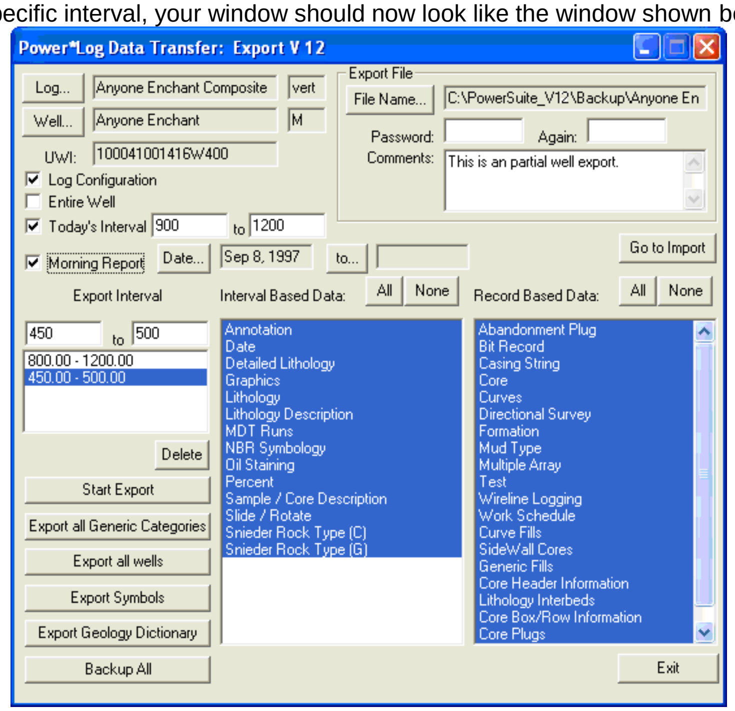
7. You may now also wish to activate the **Morning Report** check box and then select a <u>single</u> date for export from the **Morning Reports** by clicking on the Date... button and then **double clicking** on the selected **Date** from the **Morning Date From** list window.
8. To select a <u>range</u> of dates for export, however, simply **click** on the to... **button** to activate the **Morning Date To** list window and then **double click** on the final **Date** to be exported. Then, every **Date** between this one and the one selected in **Step 7** will then be exported.
9. Enter the intervals of the **Well** that you wish to export in the **Export Interval** fields. After you have typed in the two (2) intervals, press the **Tab** key. This will cause the interval range you have just entered, to be displayed in the list window. The numbers you enter here will determine which **Interval Based Data** is exported.

*****Note that multiple interval ranges can be added to this interval list box. *****

10. From the lists of **Interval** and **Record Based Data**, highlight the data that you wish to export.

<u>Note</u>: If you are only exporting intervals, it is recommended that you choose the All **buttons on the Interval** and **Record Based Data.**

If you are exporting a specific interval, your window should now look like the window shown below.



Interval Based Data:
Annotation: Any annotation on the log over the exported intervals.
Date: The information in the **Date** layer of the well over the exported intervals.
Detailed Lithology: The **Detailed Lithology** on the log over the exported intervals.
Graphics: Any graphics inserted onto the log over the exported intervals. Theses graphic files can be pretty large so the user must be careful about sending these on a daily basis.
Lithology: Includes all lithology-related tracks and layers over the exported intervals.
Lithology Description: The **Lithology Descriptions** on the log over the exported intervals.
MDT Runs: The information that is captured in the MDT Reports.
NBR Symbology: The information that is captured on the core logs that have non bed restricted layers such as Trace Fossils, Bioturbation, Sedimentary Structures, Diagenesis, Fractures, Accessories.
Oil Staining: The Oil staining data entered onto the log over the exported intervals
Percent: Any of the Generic Percent Layers data.
Sample / Core Descriptions: The **Sample Descriptions** you have entered into the **Sample** or **Core Description Reports** over the exported intervals**.**
Slide / Rotate: The Slide / Rotate data entered onto the log over the exported intervals.
Sneider Rock Type (G): The information in the **Sneider Rock Type (Geo)** layer of the well over the exported intervals.

Sneider Rock Type (C): The information in the **Sneider Rock Type (Core)** layer of the well over the exported intervals.

Record Based Data:

Double click on **Curves**, **Core**, and **Formation** in the **Record Based Data** list to show a list of curves, cores, and formations. Highlight the specific curves, cores and formations to export them. To export all Curves, Cores, or Formations, just highlight "Curves," "Core," and "Formation."

To add all data from a list, **click** on the All **button** located above the appropriate list. If you decide not to add any data from a list, **click** on the None **button** above the appropriate list.

11. If you want to encrypt the file, **enter** the same password into the **Password** and **Again** fields.
12. **Type any comments** about the file/well/log to be included with the export header information.
13. **Name the export file** by clicking on the File Name... **button** and then select a destination and a filename. Do not type in a file extension other than .EXP. If you omit the extension, an .EXP file extension will be added, automatically, to your filename by **Power*Log, Core and Curve™**.
14. **Click** on the Start Export **button**.

> **<u>Important Note</u>:** If your file is too large to fit on a floppy disk, you may have to export the file to your hard drive and then use a compression utility to fit the file onto a single disk. Common compression utilities include **Microsoft Backup**, **PKZip** by **PKWare**, and **Norton Utilities**.

Also, if you have limited free hard disk space, you may not be able to save a file directly to a floppy, because **Power*Log / Core & Curve ™** first writes data to the hard drive and then sends it to the floppy drive.

Exporting the Geological Expansion Dictionary, User defined Symbols or all your User defined Generic Category choice list…

It is possible to export your geology dictionary, user defined symbols, or all your user defined generic category choices to another computer, so that any alterations you have made to the standard dictionary will translate properly, when you export logs to another location.

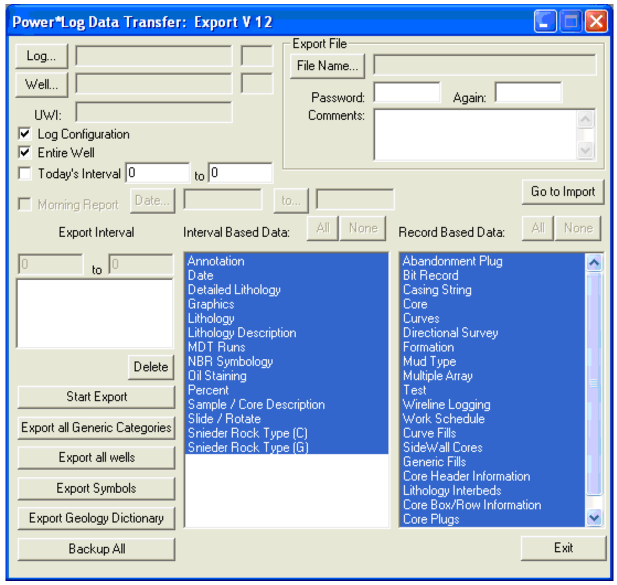
1. In the Export window, select a file name for the exported version of your dictionary. Do this by **clicking** on the File Name... **button**, and selecting a file name from your computer, or creating a new one.
2. **a.) Click** on the Export Geology Dictionary **button** and you will be prompted to verify the export.
   b.) Click on the Export Symbols **button** and you will be prompted to verify the export.
   c.) Click on the Export Generic Categories **button** and you will be prompted to verify the export.
3. **Click** on the Yes **button** to export your selection.

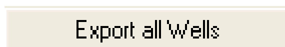
> **<u>Important note</u>:** If you are importing a **Geological Dictionary** from another location, be sure to export your own **Geological Dictionary** to another directory or floppy, so that you will be able to access your own **Geological Dictionary** at a later time. Otherwise, your existing or original **Geological Dictionary** will be <u>overwritten</u> by the imported **Geological Dictionary**.

> **<u>Important note</u>:** If you are importing a **System symbol set** from another location, be sure to export your own **System symbols** to another directory or floppy, so that you will be able to access your own **System symbol set** at a later time. Otherwise, your existing or original **System symbol** will be <u>overwritten</u> by the imported **System symbol**.

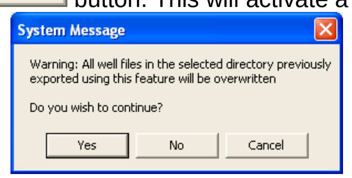
Exporting all the Well Data at one time…

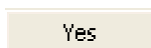
1. Select **Import/Export**, under the **File** menu selection, and then select **Export Log/Well** from the sub-menu. Or, you can **click** on the **Export Log / Well button** on the Toolbar.



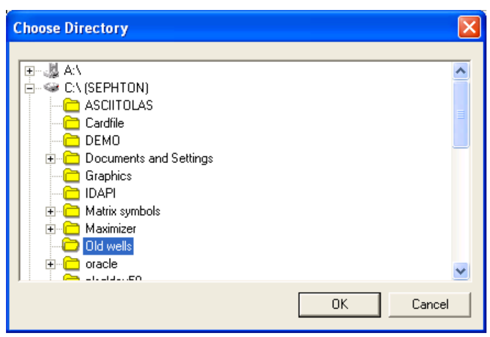
2. Click on the 

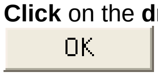
button. This will activate a system message.



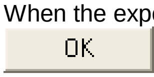
3. **Click** on the 

button. This will activate a Choose Directory window. You may wish to create a new folder for these well. This cannot be done from this window and must be done through Windows Explorer or My Computer. In the example an old wells folder is selected.



4. **Click** on the **drive** and **directory** where you wish the well data to be exported to. Then, **click** on the 

button. This will activate the Exporting window.

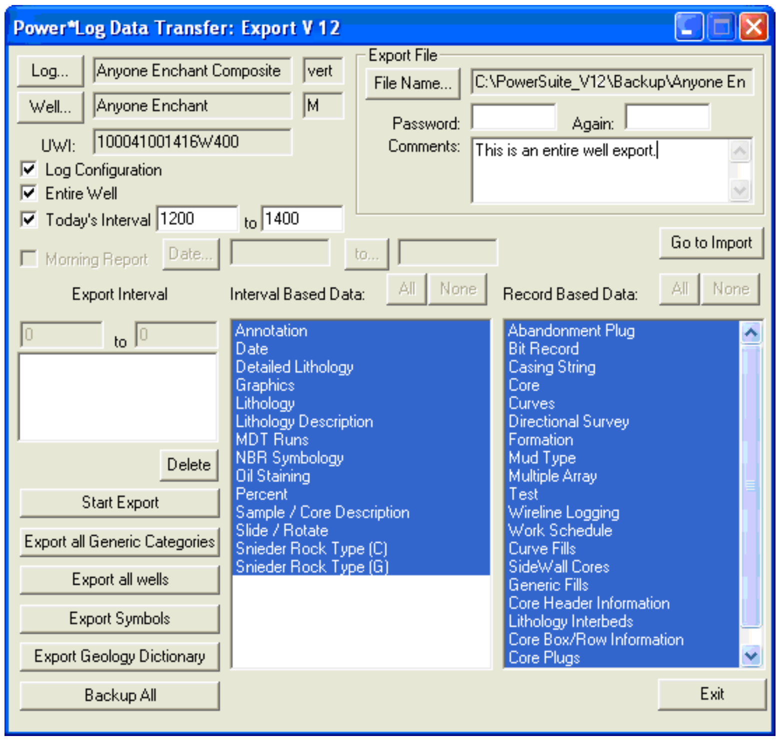
5. When the export all well data is finished a System Message will be activated as shown below. **Click** on the 

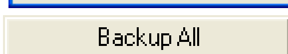
button.

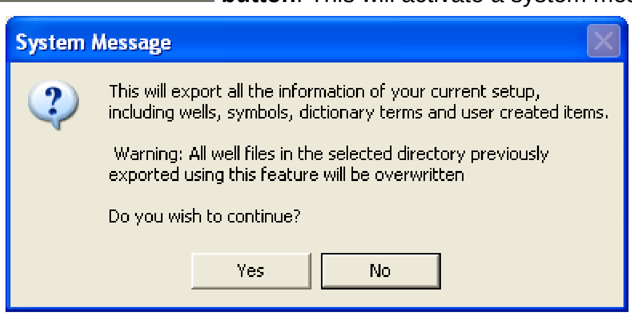
Exporting everything at one time…

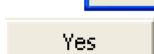
This would include all the Well data, Generic Categories, Well Symbols, Geological Expansion Dictionary, Favorites and all the Power*Suite initialization files .

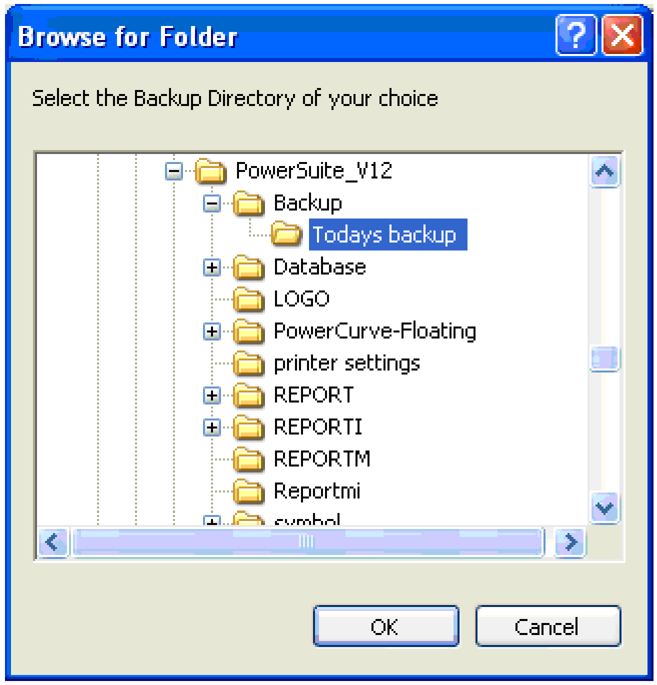
1. Select **Import/Export**, under the **File** menu selection, and then select **Export Log/Well** from the sub-menu. Or, you can **click** on the  **Export Log / Well button** on the Toolbar.

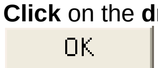


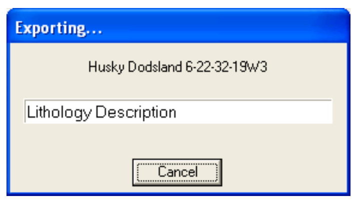
2. **Click** on the  **button**. This will activate a system message.

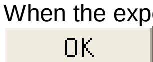


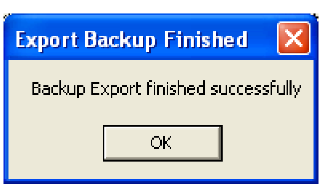
3. **Click** on the  **button**. This will activate a Choose Directory window. You may wish to create a new folder for these well. This cannot be done from this window and must be done through Windows Explorer or My Computer. In the example a PowerSuite_V12\Backup\Todays backup folder is selected.

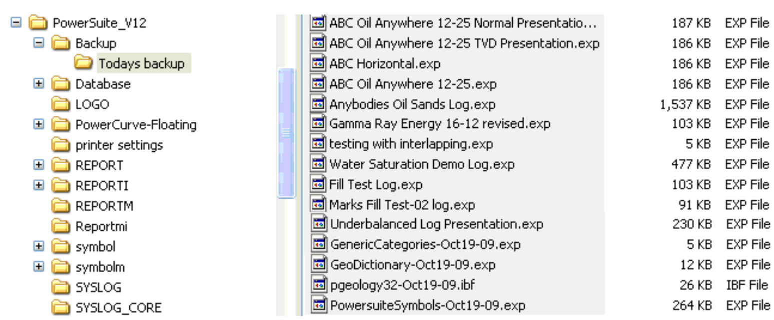


4. **Click** on the **drive** and **directory** where you wish the well data to be exported to. Then, **click** on the  **button.** This will activate the Exporting window.



5. When the export all well data is finished a System Message will be activated as shown below. **Click** on the  **button**. Below you will view the folder created in the **PowerSuite V12 \ Backup \ Todays backup** with files and their names.



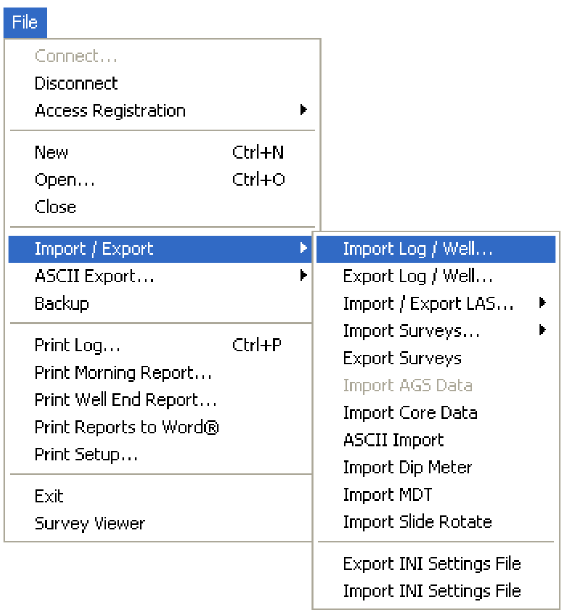


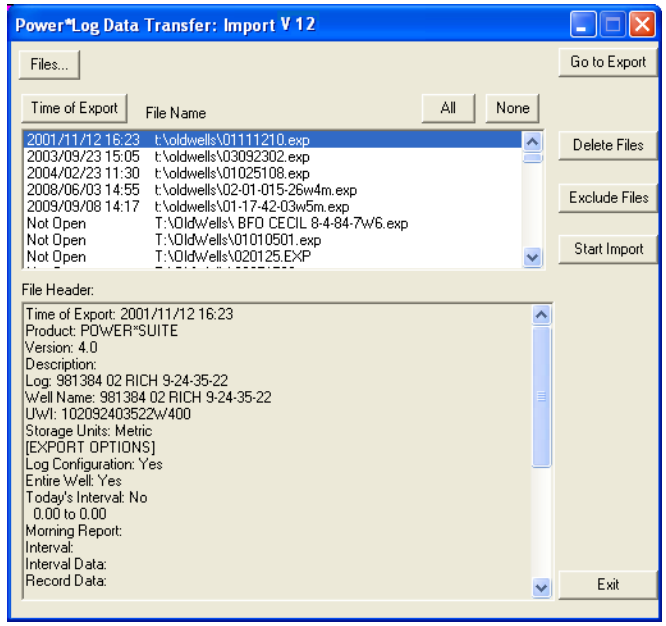
You will notice that the well export will have the log names, and the other exports associated with this backup all feature will have a time stamp after the file type.

Import Log/Well

Allows you to import a file into your database

Select **Import/Export**, under the **File** menu selection, and then select **Import Log/Well** from the sub-menu. Or, you can use the **Import button** on the **Toolbar**. This will activate the **Import** window





Importing a Log/Well…

1. **Click** on the Files... **button** to browse through your drives/directories for the file(s) you wish to import. Note that files available for importing will have an **.EXP** file extension. Any of the files that you select will then be added to the **File** list. Please make sure that the files you wish to import are highlighted (selected), in the list prior to importing.

> **<u>Note</u>:** In situations where numerous **Export** files are all being imported at once, **click** on the All **button** to highlight <u>all</u> of the **Export** files displayed in the **Import** window.

2. If any of the files are encrypted, a window will appear, stating that the file format is not recognized (if the files are not encrypted, proceed to **Step 5**). **Click** on the OK **button** in this window and a **Password** box will then appear with the filename and an empty field for you to enter the correct **Password** into.
3. Type in the **Password**, using **<u>UPPERCASE</u>** letters only.
4. After entering the **Password**, **click** on the OK **button** to decrypt the file and place it in the **File** list with the file's contents displayed in the **File Header** list field.
5. The **Import Log/Well** window will now be displayed with the details of the file(s) to be imported. Select/highlight the file(s) to be imported. Use the All **button** to select all of the files or use the None **button** to select none of the files. Note that you can select or turnoff individual files by simply clicking on them with your mouse.

> **<u>Note</u>:** The Exclude Files **button** will remove the selected/highlighted files from the import list, but will not delete them. The Delete Files **button**, on the other hand, will completely erase the selected/highlighted files from their directory. Once deleted, these files will no longer be recoverable.

6. **Click** on the Start Import **button** to activate the following system message, "***Do you really want to IMPORT the highlighted files?***"
7. **Click** on the Yes **button** to proceed with the import.

> **Note:** If you click on the "***Yes***" button, and the file you are importing contains the information from an **Entire Well**, the following system message will be activated, "***About to IMPORT ENTIRE WELL data. All information associated with this well in the database will be OVERWRITTEN. Continue?***"

8. **Click** on the Yes **button**.
9. Upon completion of the import, the following system message will then be activated, "***Data has been imported successfully.***"
10. **Click** on the OK **button** to confirm the successful import of the data.

    The Go to Export **button** will take you to the **Export Project/Well** window.

LAS Import

Allows you to import Log ASCII Standard (LAS) formatted files into the database. We have separated these import procedures into 2 sections. The first section is How to Import an LAS data File. The second section is How to Import an LAS data file with a saved mapping file. We now have the ability to Import Version 2 or 3 file formats.

> **The user can also import a single curve into an existing curve by referring to the Right Click import method**.

If the ASCII files you receive looks like the file shown below it is an LAS file. The ASCII data can be directly imported into the database as long as the Well exists in the database. You can now proceed with "How to import an LAS data File". If it does not look similar you will have to proceed with "How to Import an ASCII data file".

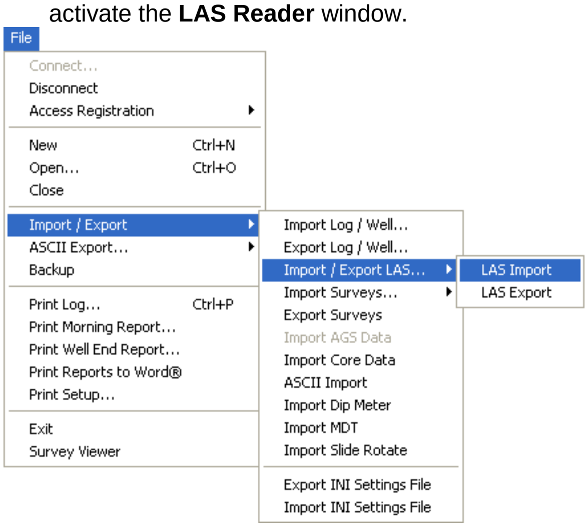
```
~Version Information
VERS.          3.00     :CWLS LOG ASCII STANDARD - VERSION 3.00
 WRAP.         NO       :One line per depth step
~WELL INFORMATION
#MNEM.UNIT              DATA                       DESCRIPTION
STRT.M                  178.46040                  :START DEPTH
STOP.M                  2206.44720                 :STOP DEPTH
STEP.M                  0.15240                    :STEP LENGTH
NULL.                   -999.22000                 :Null value
COMP.                   ABC Exploration Company    :Company
WELL.                   ABC et al Anywhere         :Well
FLD.                    Anywhere                   :Field
LOC.                    111/09-12-015-5W4M         :Location
PROV.                   Alberta                    :Province
DATE.                   14-MAR-96                  :Run Date
UWI.                    111012601505W400           :Unique Well ID
LIC.                    12356                      :License Number
SRVC.                   Anywhere Logging Company   :SERVICE COMPANY
~CURVE INFORMATION
#MNEM.UNIT              API CODE       CURVE DESCRIPTION
DEPT     .M             00 001 00 00   : 1 Depth
GR       .GAPI          01 310 01 00   : 2 Gamma Ray
DT       .US/M          01 520 80 00   : 3 DELTA-T
SP       .MV            01 010 01 00   : 4 Spontaneous Potential
LLD      .OHMM          01 220 10 00   : 5 Latero-Log Deep (Resistivity)
LLS      .OHMM          01 220 09 00   : 6 Latero-Log Shallow (Resistivity)
HD       .MM            01 280 01 00   : 7 Hole Diameter
TDEP     .M             01 636 00 00   : 8 Tide Depth
~PARAMETER INFORMATION
#MNEM.UNIT              VALUE          DESCRIPTION
RUN.                    ONE            :Run Number
PDAT.                   GROUND LEVEL   :Permanent Datum
~OTHER INFORMATION
#MNEM.UNIT              VALUE          DESCRIPTION
~A
DEPT      GR       DT        SP       LLD      LLS      HD       TDEP
178.4604  52.4498  182.4146           96.9375  3.8158   0.1481   210.3713           178.46042
178.6128  47.9652  182.4146           96.6250  3.2990   0.1484   210.3713           178.61282
```

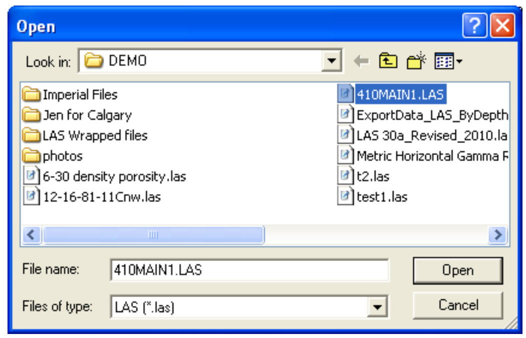
If the well does not exist in your database please refer to "Starting ***a New Log/Well***" to create a new well so that you can import the curve data.

How to Import an LAS data File

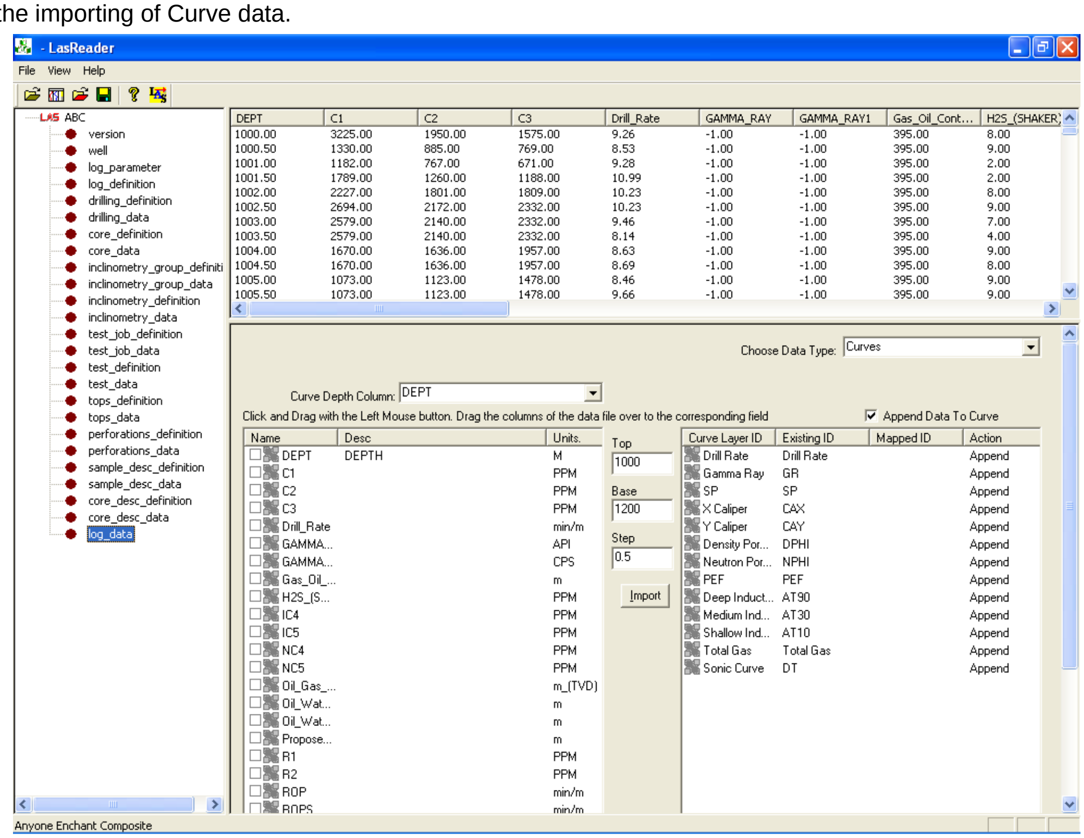
If the file format is LAS V3.0 then we can import, beside curve data, Formation, Test, Inclinometry and Core Data directly into the database. If it is LAS V2.0 then we will only be able to import curve data. This method allows the user to import multiple curves at a time as opposed to the right click on a curve layer which allows the user to import a single curve.

1. **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data.



Overview of window

The **left hand side** of the **LAS Reader window** (shown on the right) allows the user to see the tree view of the data file format including the different data, parameter and definition blocks. The tree enables the user to select different sets of data or definitions. We have the choice to import these data types into the predefined data sets such as curves, Inclinometry, Tests, Tops and Core Data within the Power*Suite application. We default the window to select the log data or curve data if it is available

LAS ABC
- version
- well
- log_parameter
- log_definition
- drilling_definition
- drilling_data
- core_definition
- core_data
- inclinometry_definition
- inclinometry_data
- test_definition
- test_data
- tops_definition
- tops_data
- perforations_definition
- perforations_data
- log_data

The **upper right hand side** of the **LAS Reader window** (shown below) allows the user to see the data associated with the different data and parameters and definition blocks.

DEPT	AT10	AT20	AT30	AT60	AT90	DT	CAX	CAY
300.2280	8.5316	9.1671	9.4936	10.4095	10.5835	330.0000	244.2500	166
300.3804	8.2609	8.8518	9.1924	10.1445	10.3046	332.2800	244.7250	166
300.5328	8.0506	8.6503	9.0080	10.0700	10.2195	331.1200	245.2500	166
300.6852	8.0136	8.6582	9.0330	10.1819	10.3426	325.9600	246.3250	166
300.8376	8.2003	8.8681	9.2689	10.4961	10.6618	322.0400	247.2250	166
300.9900	8.0136	8.5552	8.9254	10.1072	10.2572	322.7600	248.7000	166
301.1424	7.4719	7.9475	8.1401	9.1840	9.3031	326.0400	251.2250	166
301.2948	7.0897	7.6600	7.6812	8.6423	8.7464	330.1600	252.2250	166
301.4472	6.9347	7.4926	7.5549	8.4300	8.5316	333.9200	253.3750	166
301.5996	6.7706	7.2749	7.4719	8.2533	8.3451	336.4800	255.4500	166
301.7520	6.7209	7.2415	7.4650	8.2154	8.3067	337.4400	256.2500	166
301.9044	6.7395	7.2282	7.4995	8.2838	8.3682	338.4400	257.3000	166

The **middle bottom portion** of the **LAS Reader window** (Shown below left) displays the parameters or data sets that have been selected from the tree view on the left. These can then be dragged to the import side of the LAS reader.

Name	Desc	Units.
DEPT	1 DEPTH	M
AT10	2 AIT 2 FT. VERT 10" DEPTH	OHMM
AT20	3 AIT 2 FT. VERT 20" DEPTH	OHMM
AT30	4 AIT 2 FT. VERT 30" DEPTH	OHMM
AT60	5 AIT 2 FT. VERT 60" DEPTH	OHMM
AT90	6 AIT 2 FT. VERT 90" DEPTH	OHMM
DT	7 SONIC INTERVAL TRANSIT TIME...	US/M
CAX	8 DENSITY CALIPER	MM
CAY	9 NEUTRON CALIPER	MM
DRHO	10 DENSITY CORRECTION	K/M3
RHOB	11 BULK DENSITY	K/M3
GR	12 CNFD GAMMA RAY	GAPI
MINV	13 MICRO INVERSE	OHMM

Curve Layer ID	Existing ID	Mapped ID	Action
Drill Rate	Drill Rate		Append
Gamma Ray	GR		Append
SP	SP		Append
X Caliper	CAX		Append
Y Caliper	CAY		Append
Density Porosity	DPHI		Append
Neutron Porosity	NPHI		Append
PEF	PEF		Append
Deep Induction	AT90		Append
Medium Induction	AT30		Append
Shallow Induction	AT10		Append
Total Gas	Total Gas		Append
Sonic Curve	DT		Append

The **bottom right hand side** of the **LAS Reader window** (shown above right) allows the user to see the different data sets we import as determined by the choose data type selection drop box. Curve names description and units for the curves as well as the curve layers associated with the log that is open and active at the time the LAS Reader window was invoked.

Choose Data Type:
- Curves
- Survey Group
- Surveys
- Formations
- Cores
- DST Job
- DST
- Sample Descriptions
- Core Descriptions

The **Choose Data Type** drop box allows the user to import data into different tables within the Power*Suite application. We default this window to curves but we can import other data such as survey Formation, Surveys, Core Descriptions, Sample Descriptions, Core Run, DST Run and DST Period data sets. The user must first pick the data set from the tree and then select the data type so they can then map the data from the file to the database table.

Curve Depth Column: DEPT

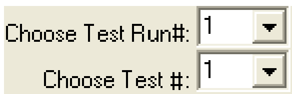
The **Curve Depth Column** drop box will appear if the curves data type is selected the Choose Data Type drop box which will be the default when the LAS Reader application is initiated. Most LAS file formats for curve data will have depth as the first column but this is not mandatory. We will default to the first column or a column identified with the standard **DEPT** but if it is not the depth column the user can then identify the column with the Curve Depth Column drop box above the columns and their descriptions.

☑ Append Data To Curve This check box will change the curve mapping action from append which will check for existing depths and if they exist the value will be replaced and if the depth does not exist then it will insert. If the action is replace then it will delete the entire curve and replace it with the new file data. The

check box indicates that all the curves will be replaced or appended and the user can right click on the curve layer name to change the action.

The **Top Base Step** portion of the window appears if the curves data type is selected from the Choose Data Type drop box which will be the default when the LAS Reader application is initiated. This allows the user to import all or a portion of the of the curve data from the file into your open log. The user can enter new top and base depths fields to import only a portion of the LAS data file. This interval has do correspond to the lesser or equal to the depths corresponding in the data.

The **Choose Survey Group** drop box will appear if you select Surveys from the Choose data type drop box. This allows the user to pick a different survey group to import to. This survey group must be defined before the LAS Reader application has been initiated.

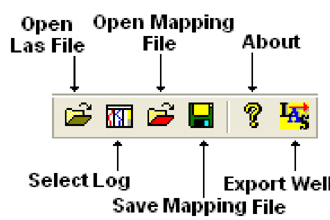


The **Choose Test Run # and Choose Test #** drop boxes will appear if you select DST from the Choose data type drop box. This allows the user to pick the correct run # and test number for that run to import the data to. This The DST can be created before in the DST report menu or can be imported through the LAS reader by choosing the DST Job selection.

The 

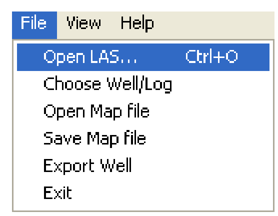
button commences the import of data from the file that was mapped form bottom middle portion of the window to the data sets on the bottom right hand portion of the window.

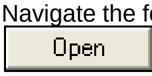
LAS Reader Tool Bar



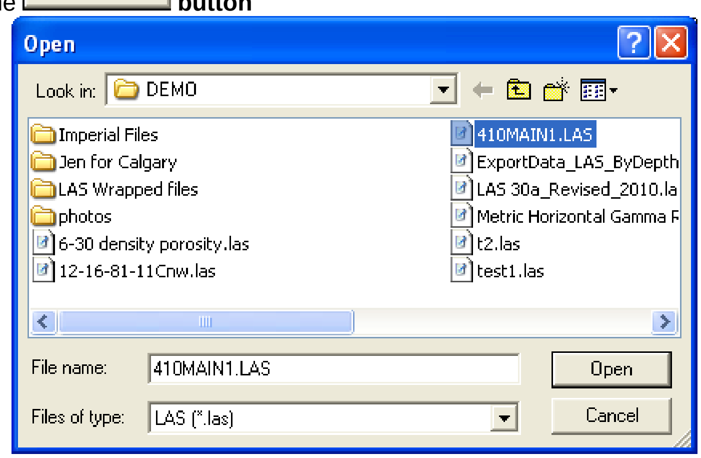
LAS Reader File Menu

File Menu - Open LAS Option

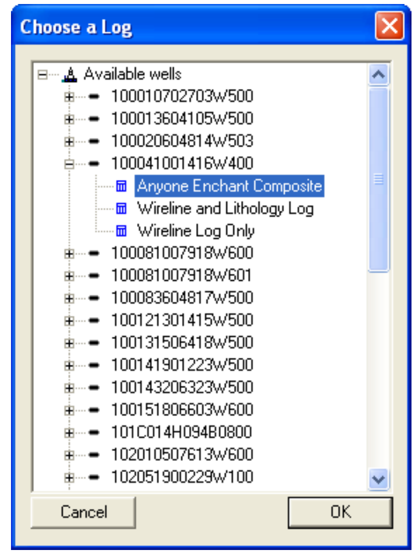


Select **Open LAS** file, under the **File** menu selection if you would like to open another LAS file or you did not select one when the LAS reader application was activated. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open LAS file window. Navigate the folder structure and highlight the file you want and then **click** on the 

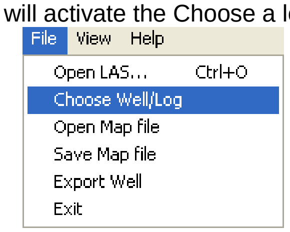
button



File Menu - Choose Well / Log Option

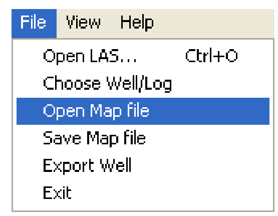


1. Select **Choose Well / Log**, under the **File** menu selection if you would like to open a different Well / Log or you did not have a log open when the LAS Reader Application was activated. Or, you can **click** on the **button** on the **Toolbar**. This will activate the Choose a log window



2. **Click** on the **+ beside available wells** to open the tree list of the wells in your database.
3. **Click** on the **dot beside the UWI** of the well to show the list of logs available.
4. **Click** on the **log format** (highlight) you want that has the curve layers available to import into.
5. **Click** on the OK **button**. This will open another log / well for you to import data into or export data out of.

File Menu – Open Map file Option



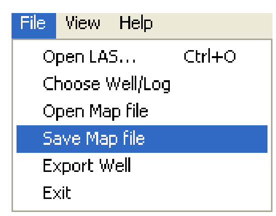
This allows the user to utilize the mapping file saved from the save amp file option to remap the curves / data to the layers or the database table fields.

1. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.

N.B. The file extensions are ***.cvm** for curve data, ***.ftm** for formation data, ***.sgc** for survey group data, ***.inc** for survey data, ***.cdm** for core data, ***.tgc** for DST job data, and ***.tmf** for DST interval data.

File Menu – Save Map file Option

This allows the user to save a mapping file after you have clicked and dragged the particular data from the LAS file to the appropriate curve layer or data type in our database table. This file is saved with a certain extension that we add to the mapping file name.

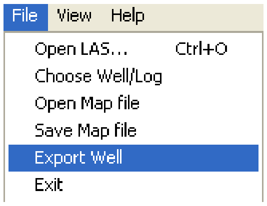


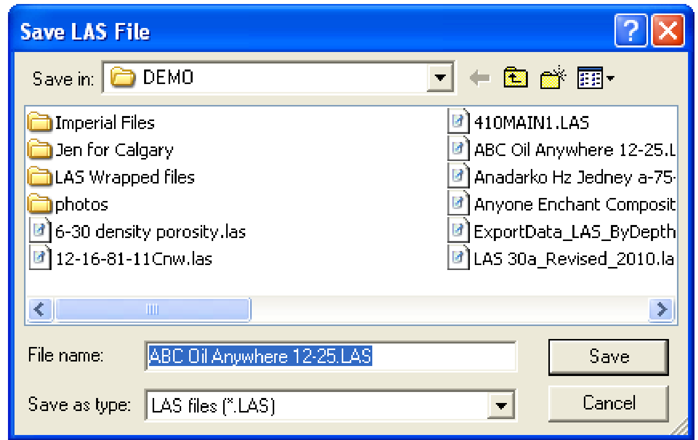
1. Select **Save Map file**, under the **File** menu selection if you would like to save the mapping that you have just finished for a particular data set. Or, you can **click** on the **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.

File Menu – Export Well Option

This allows the user to export all of the well's data in an LAS V3.0 data format. This will export every table from the database very similar to the Data transfer module but not in a binary format but in a format that is readable by an LAS reader.

1. Select **Export Well**, under the **File** menu selection or you can **click** on the **button** on the **Toolbar**. This will activate the Save LAS file window.





2. We will default the file name to the well name. If the file name is OK then **click** on the Save **button**. This will activate the Curve Export Options window.

3. The user can modify the interval and the step if they so desire. The step may effect the curve data at the end of the file as they step may alter the final readings on an LAS file curve depths. We default to the best step available but the user can change the step and then **click** on the Check STEP **button** to verify the step is ok.

We take the first curve depth from the shallowest curve and the last curve depth from the deepest of the curves and modify the step so that all the data will have a common step.

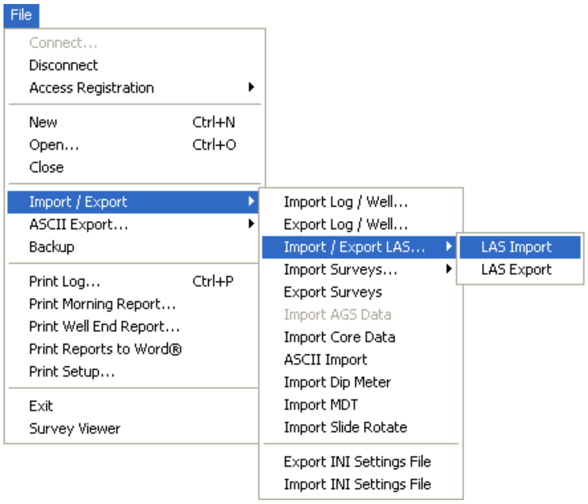
4. **Click** on the OK **button** when you are done. This will activate a please wait window and when the window disappears the file has been created in the folder you have chosen.

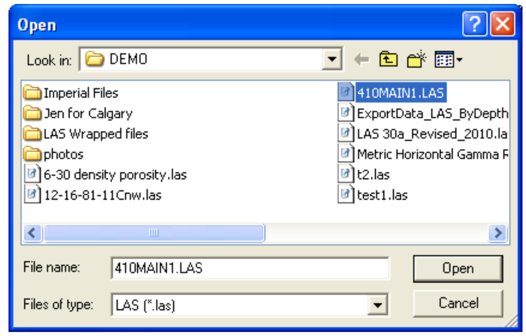
File Menu – Exit Option

This allow the user to exit the LAS Reader application

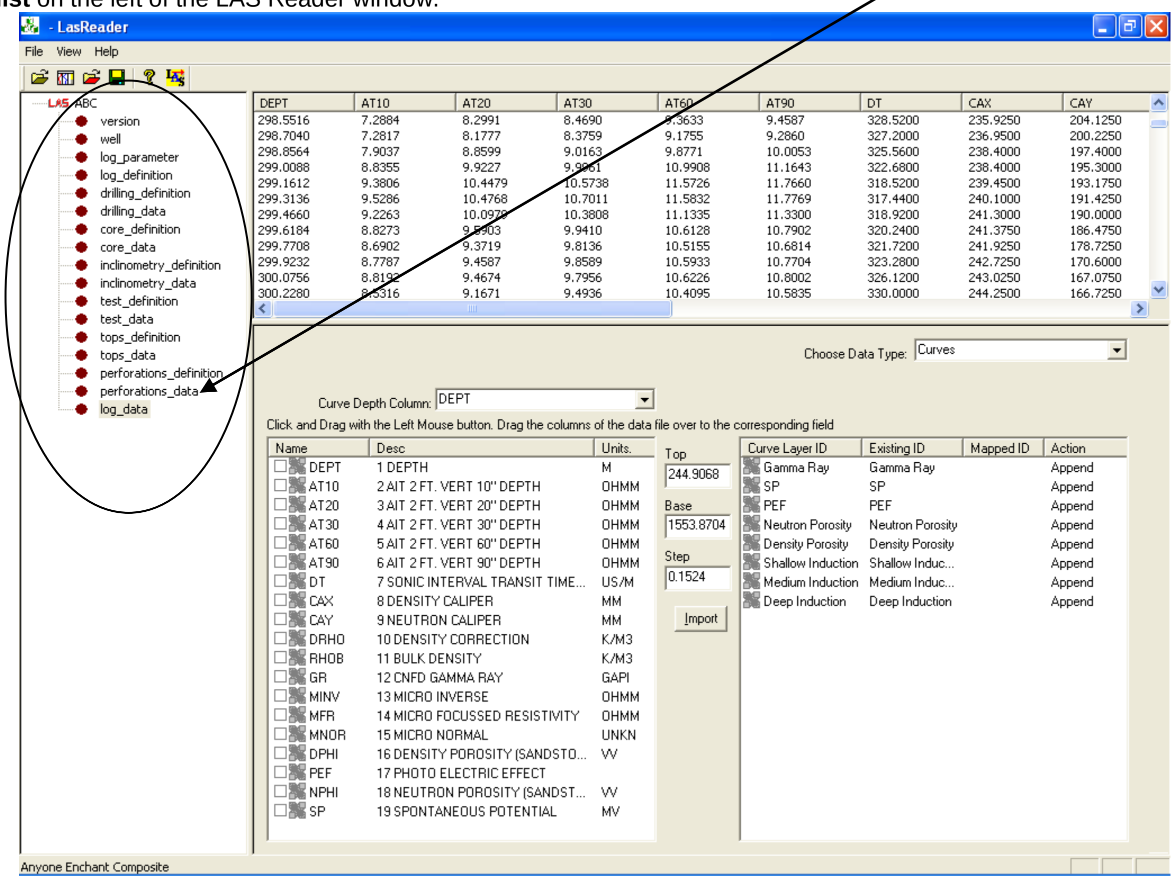
Importing / Mapping of LAS Curve data.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user has the option to **highlight** different **curve / log data** sets from the **tree list** on the left of the LAS Reader window.

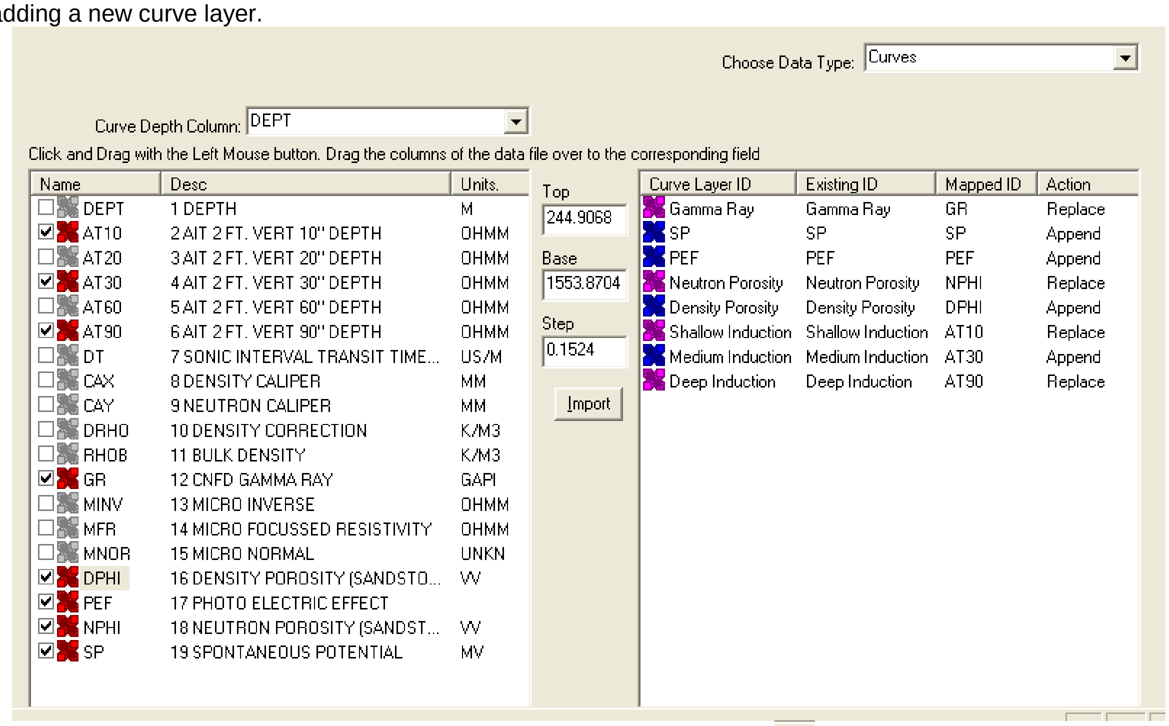


3. On the lower left side of the window **Click and drag** the **curve** you wish to import to the **curve layer** on the lower right side and release it when the layer becomes highlighted.

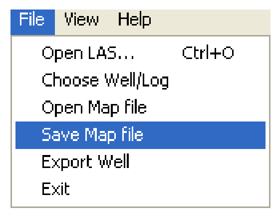
N.B. The user can **Right click** on the **Curve Layer ID** to remove the mapping or switch the action from append to replace. The Symbol color will either be purple for replace or blue for append.

4. **Repeat** the **Clicking and Dragging of curves to curve layers** until all have been mapped. The user can also bring over new curves to the well without having a layer to show the curves on. You would then have to

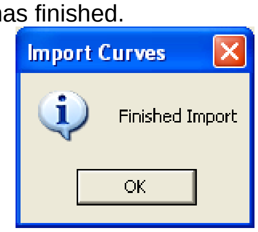
associate that curve to a new layer at a later date. This would be done through the log configuration builder on adding a new curve layer.



5. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Curve data again.



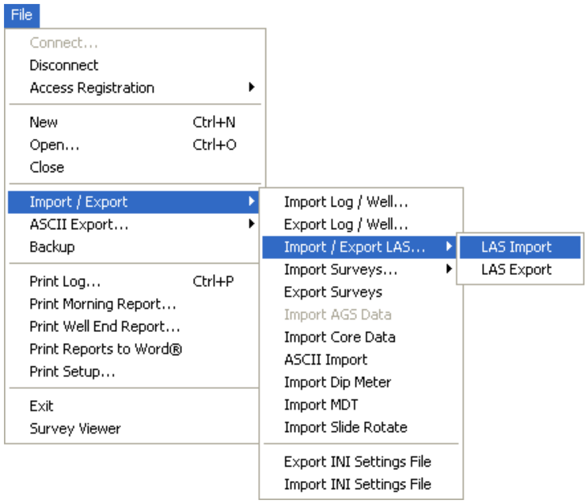
6. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

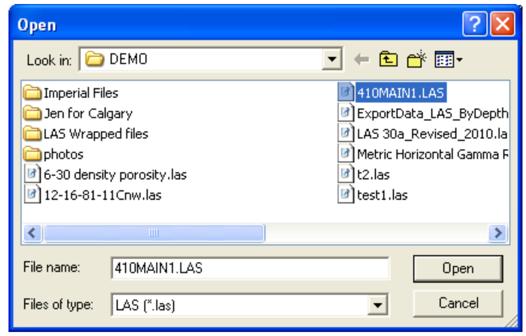


7. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

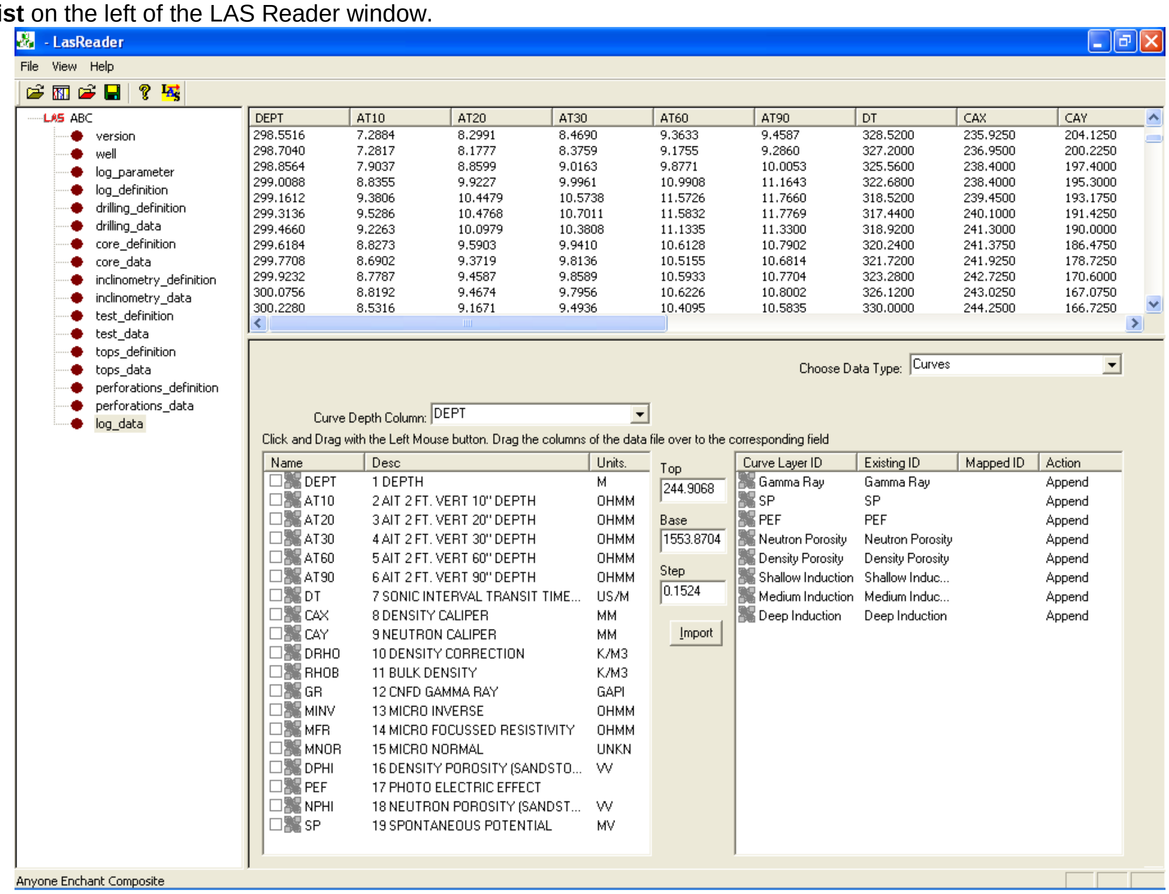
Import LAS curve data from a mapped file.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.

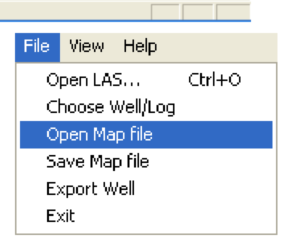




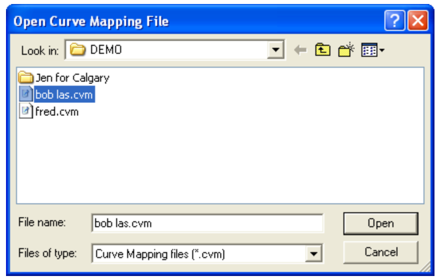
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the  **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user has the option to **highlight** different **curve / log data** sets from the **tree list** on the left of the LAS Reader window.

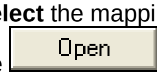


3. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.



N.B. The file extensions are ***.cvm** for curve data, ***.ftm** for formation data, ***.sgc** for survey group data, ***.inc** for survey data, ***.cdm** for core data, ***.tgc** for DST job data, ***.tmf** for DST interval data ***.sdm** for sample descriptions and ***.cdm** for Core Description data.

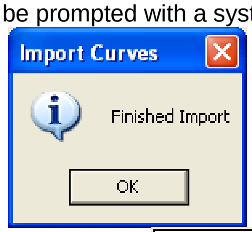


4. **Select** the mapping file with the ***.cvm** saved from previous imports of similar data to similar logs and **click** on the  **button**.

N.B. The user can **Right click** on the **Curve Layer ID** to remove the mapping or switch the action from append to replace.

5. The user can map more curves on the left side of the window **by clicking and dragging** the **curve** you wish to import to the **curve layer** on the right side and release it when the layer becomes highlighted.

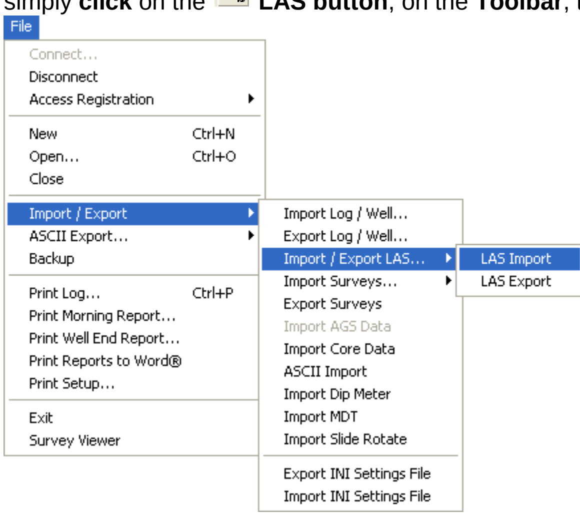
6. **Click** on the  **button**. You will then be prompted with a system message after the import has finished.

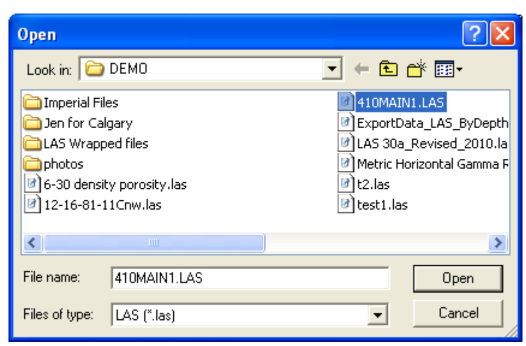


7. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

Importing / Mapping of LAS Formation Top data.

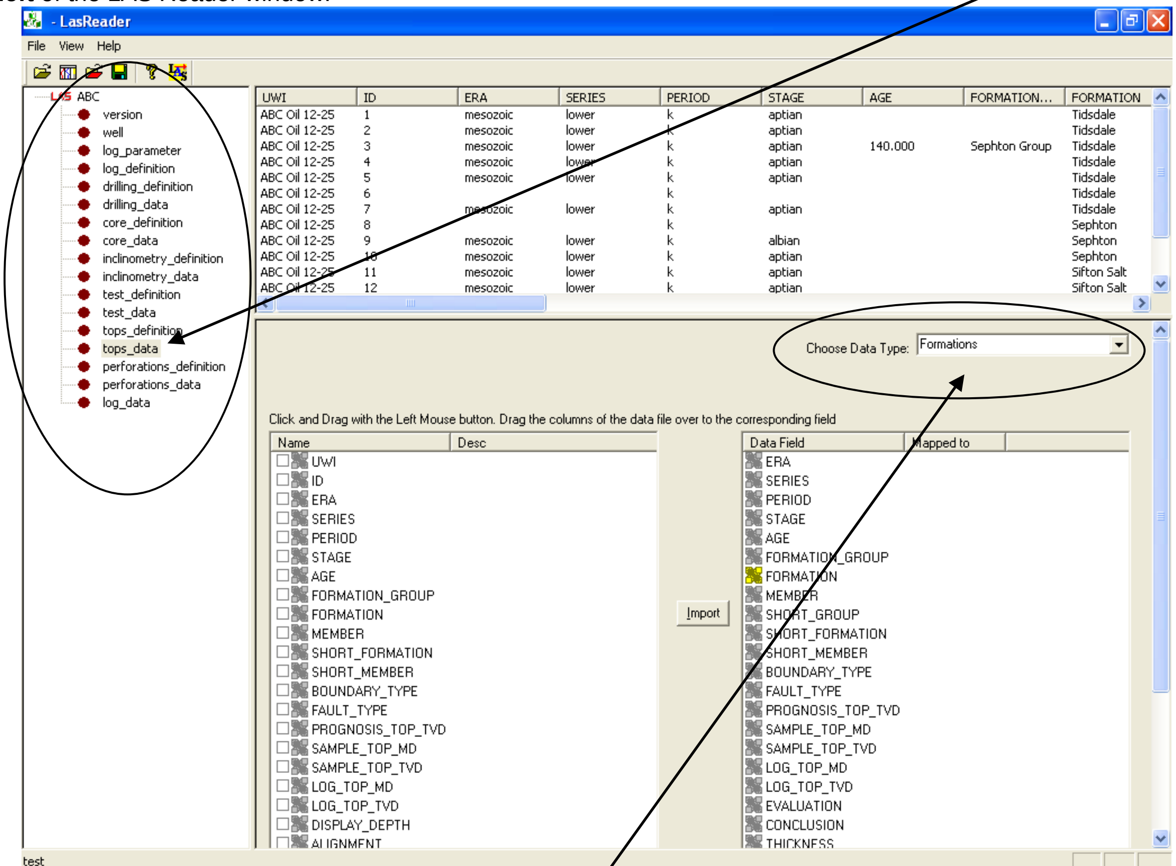
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the 

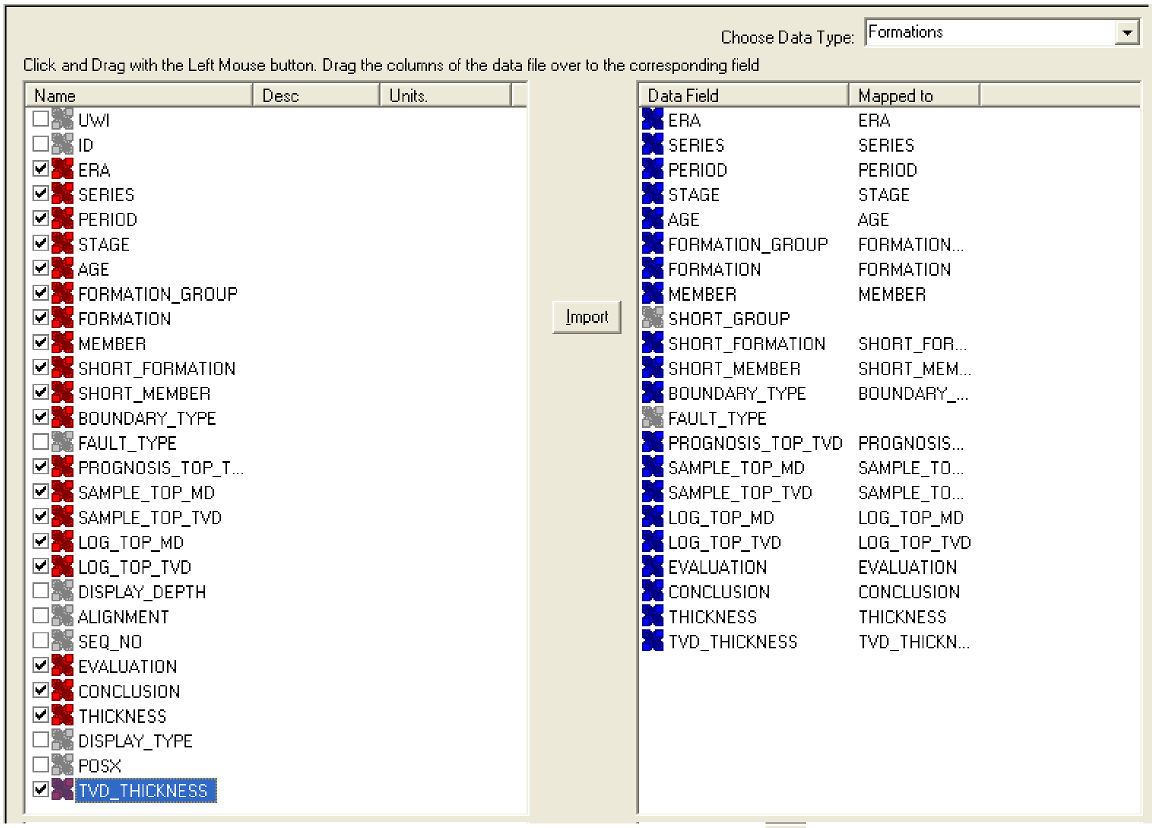
button. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the Formation Top data set** from the **tree list on the left** of the LAS Reader window.



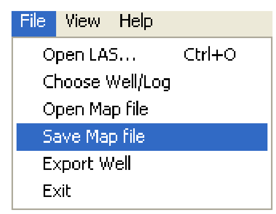
3. Select **Formations** from the **Choose Data type drop box**.
4. On the lower left side of the window **click and drag** the **Formation top data** you wish to import to the **formation data type field** on the lower right side and release it when the data field becomes highlighted. Mandatory fields are highlighted in a yellow symbol and must be mapped for the record to exist in the database.

N.B. The user can remove the mapping by right clicking on the data field and selecting remove mapping.

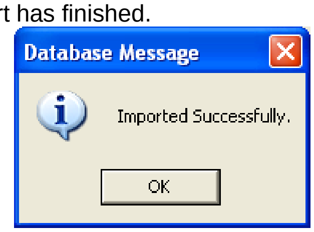
5. **Repeat** the **Clicking and Dragging** of LAS field data to the data fields of the database table for formation tops until all have been mapped.



6. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Formation top data again.



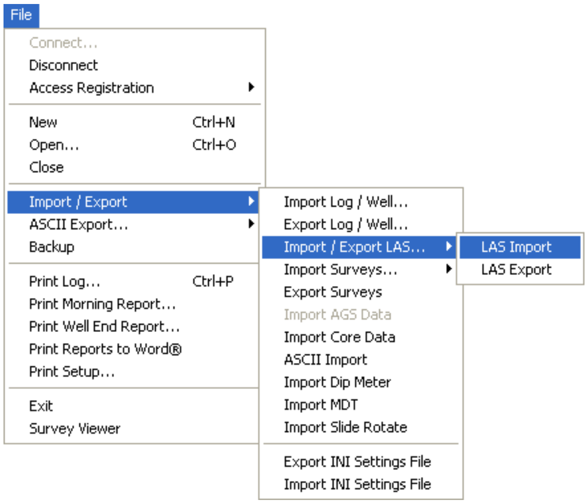
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

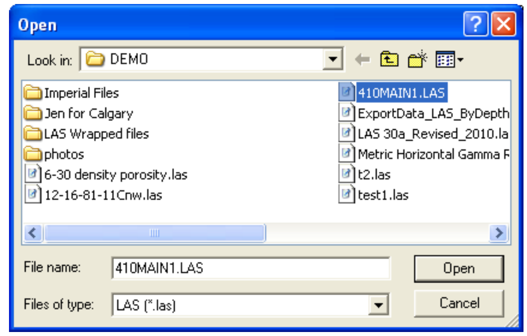


8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window

Import LAS Formation Tops data with a Mapped file.

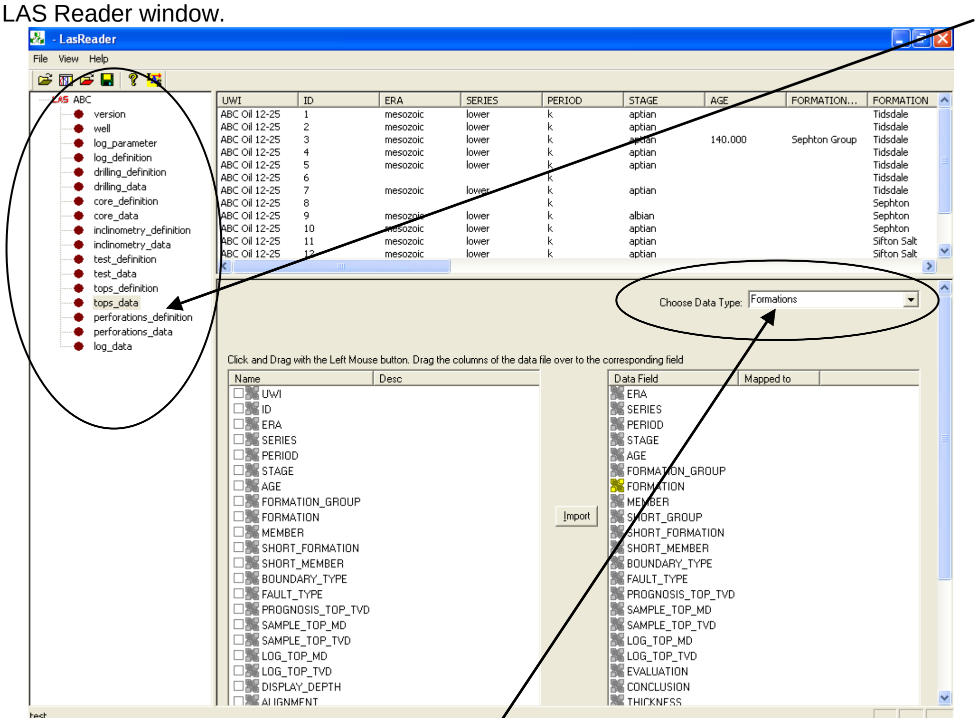
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.



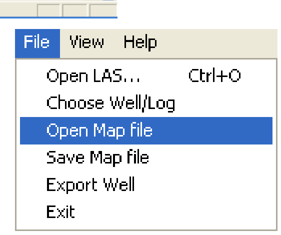


2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from. Find the file and directory and highlight the file by **click** on it **once** and then **click** on the 

button. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the Formation Top data set** from the **tree list on the left** of the LAS Reader window.

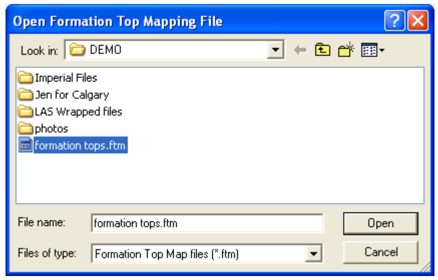


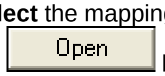
3. Select **Formations** from the **Choose Data type drop box**.



4. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.

N.B. The file extensions are ***.cvm** for curve data, ***.ftm** for formation data, ***.sgc** for survey group data, ***.inc** for survey data, ***.cdm** for core data, ***.tgc** for DST job data, and ***.tmf** for DST interval data.

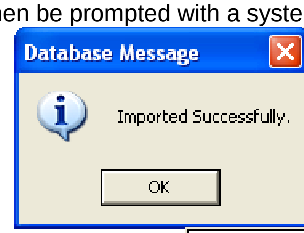


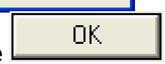
5. **Select** the mapping file with the ***.ftm** saved from previous imports of similar data to the database and **click** on the  **button**.

N.B. The user can **Right click** on the Data field to remove the mapping.

6. The user can map more data on the left side of the window **by clicking and dragging** the **data** you wish to import to the **data field** on the right side and release it when the layer becomes highlighted.

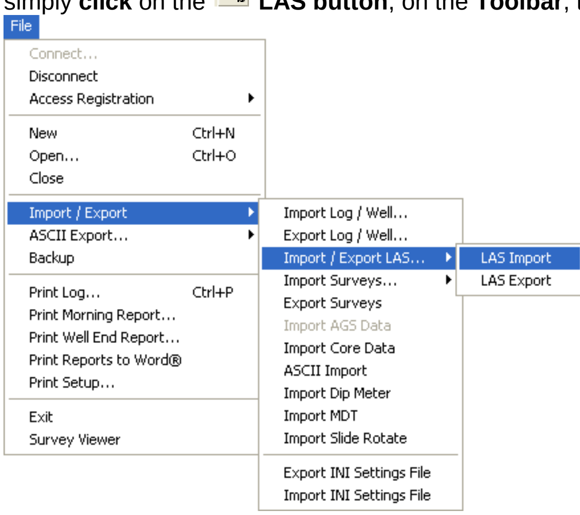
7. **Click** on the  **button**. You will then be prompted with a system message after the import has finished.

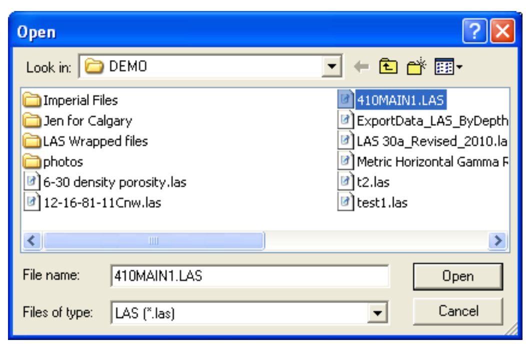


8. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

Importing / Mapping of LAS Inclinometry (Group) data.

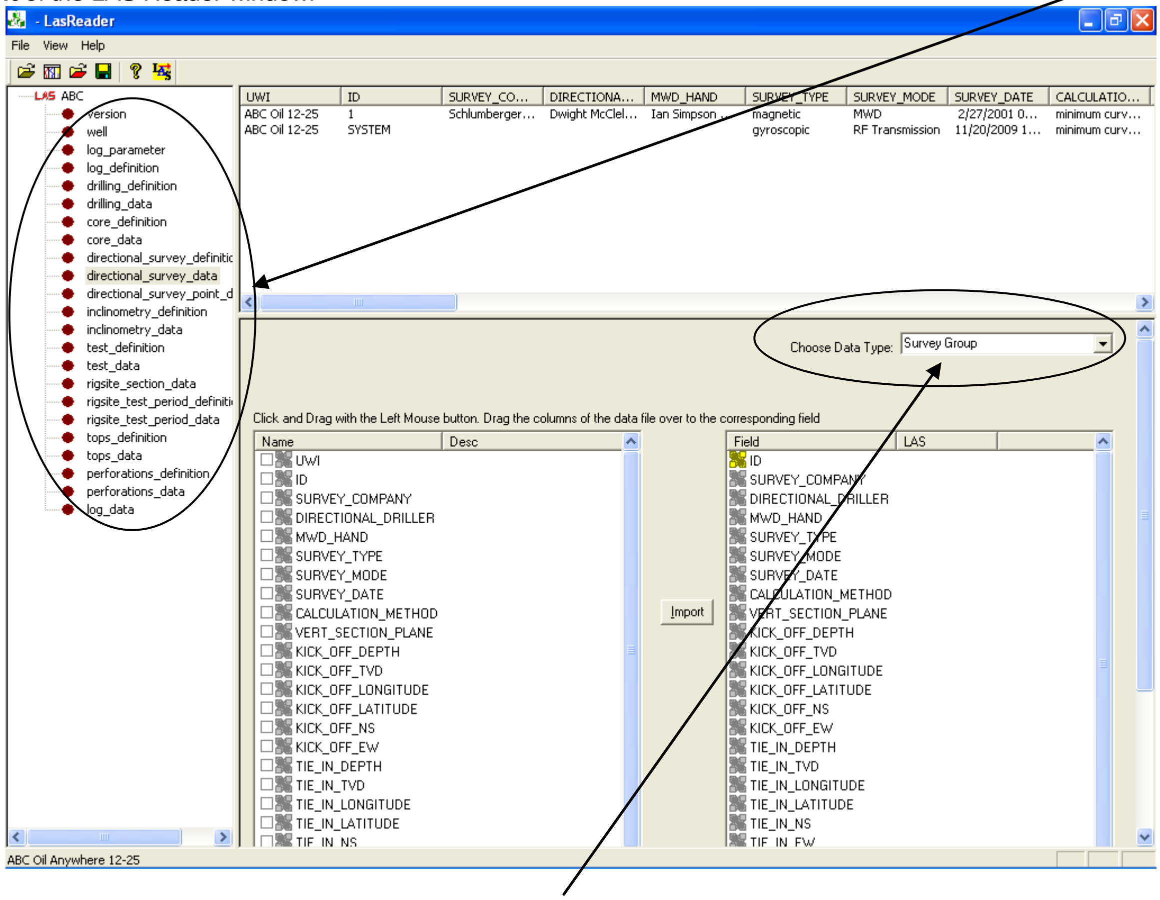
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the  **button**. If your log is open at the time you will see something similar to the window shown below. We will default

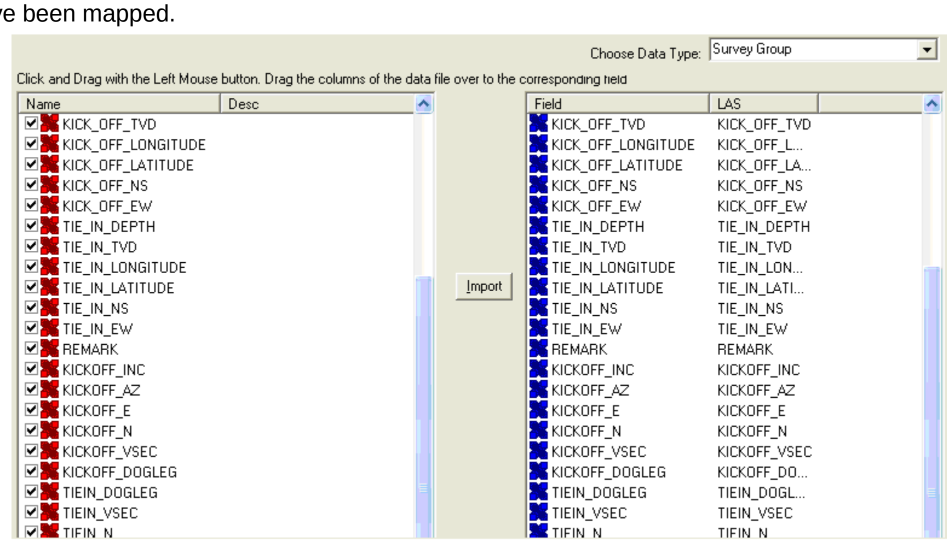
to the importing of Curve data. The user must **highlight the Survey group data set** from the **tree list on the left** of the LAS Reader window.

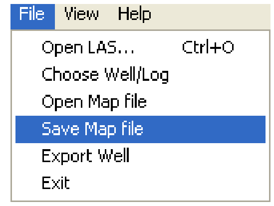


3. Select **Survey Group** from the **Choose Data type drop box**.
4. On the lower left side of the window **click and drag** the **Survey group data** you wish to import to the **survey group data type field** on the lower right side and release it when the data field becomes highlighted. Mandatory fields are highlighted in a yellow symbol and must be mapped for the record to exist in the database.

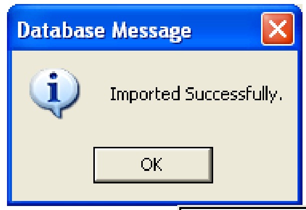
N.B. The user can remove the mapping by right clicking on the data field and selecting remove mapping.

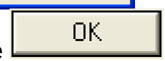
5. **Repeat** the **Clicking and Dragging** of LAS field data to the data fields of the database table for the survey data until all have been mapped.





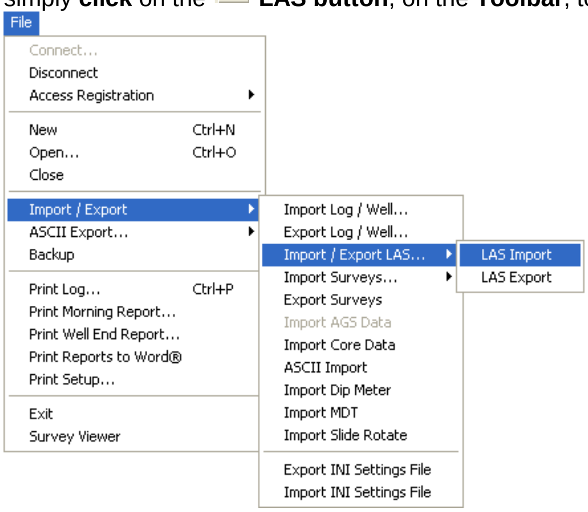
6. The user can save this mapping procedure at this time by **clicking** on the  **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Inclinometry data (survey data) again.
7. **Click** on the  **button**. You will then be prompted with a system message after the import has finished.

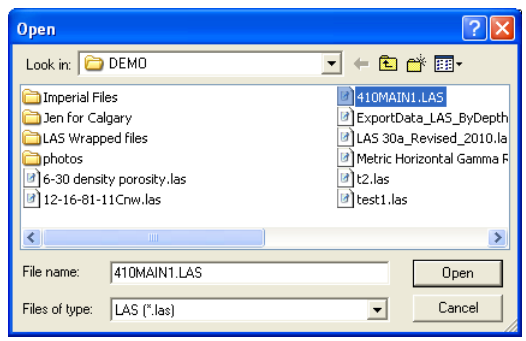


8. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

Import LAS Survey Group data with a Mapped file.

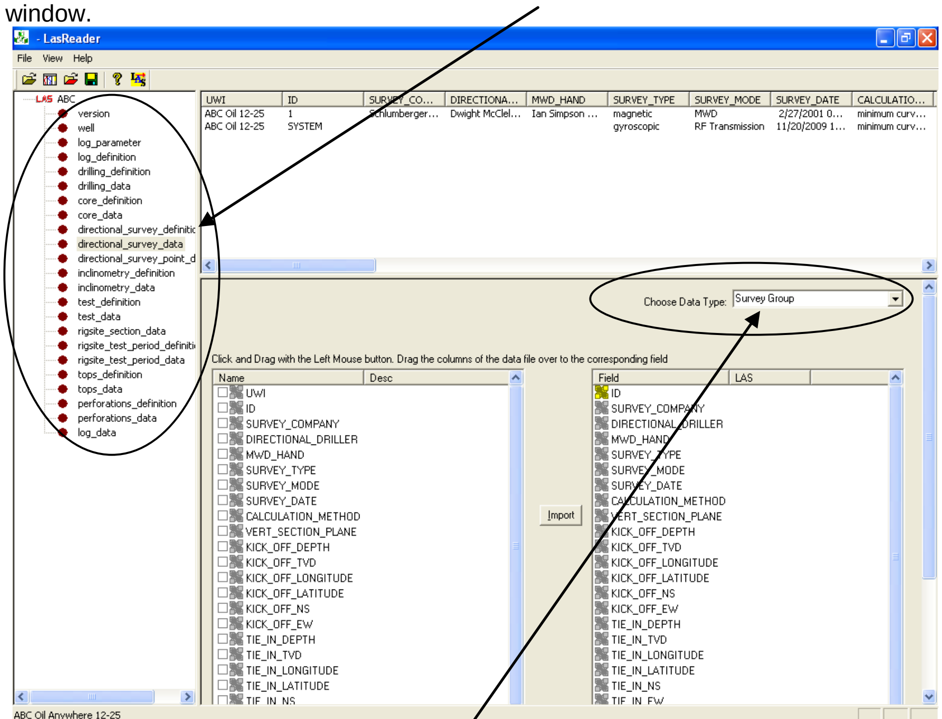
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.



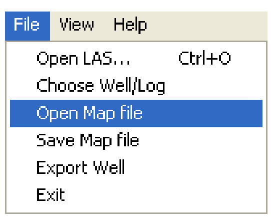


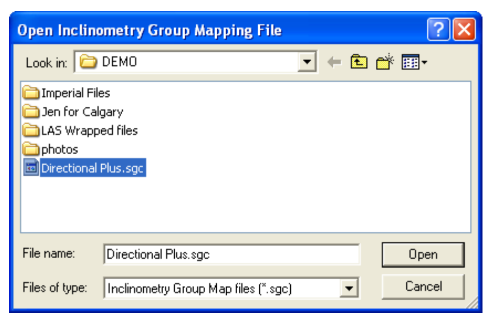
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the  **button**. If your log is open at the time you will see something similar to the window shown below. We will default

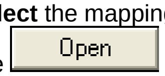
to the importing of Curve data. The user must **highlight the Inclinometry data set** from the **tree list on the left** of the LAS Reader window.



3. Select **Surveys Group** from the **Choose Data type drop box**.
4. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.

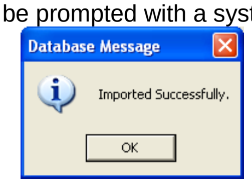




5. **Select** the mapping file with the ***.sgc** saved from previous imports of similar data to the database and **click** on the  **button**.

N.B. The user can **Right click** on the Data field to remove the mapping.

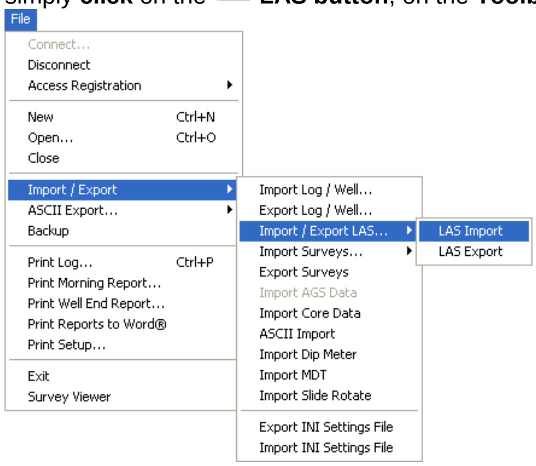
6. The user can map more data on the left side of the window **by clicking and dragging** the **data** you wish to import to the **data field** on the right side and release it when the layer becomes highlighted.
7. **Click** on the  **button**. You will then be prompted with a system message after the import has finished.

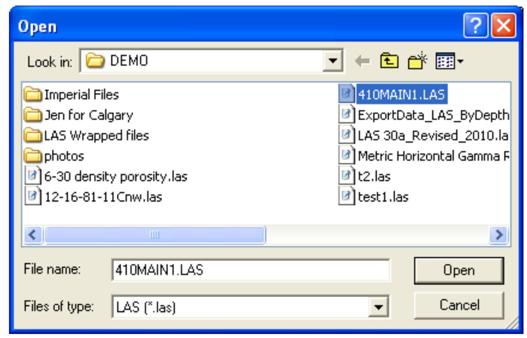


8. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

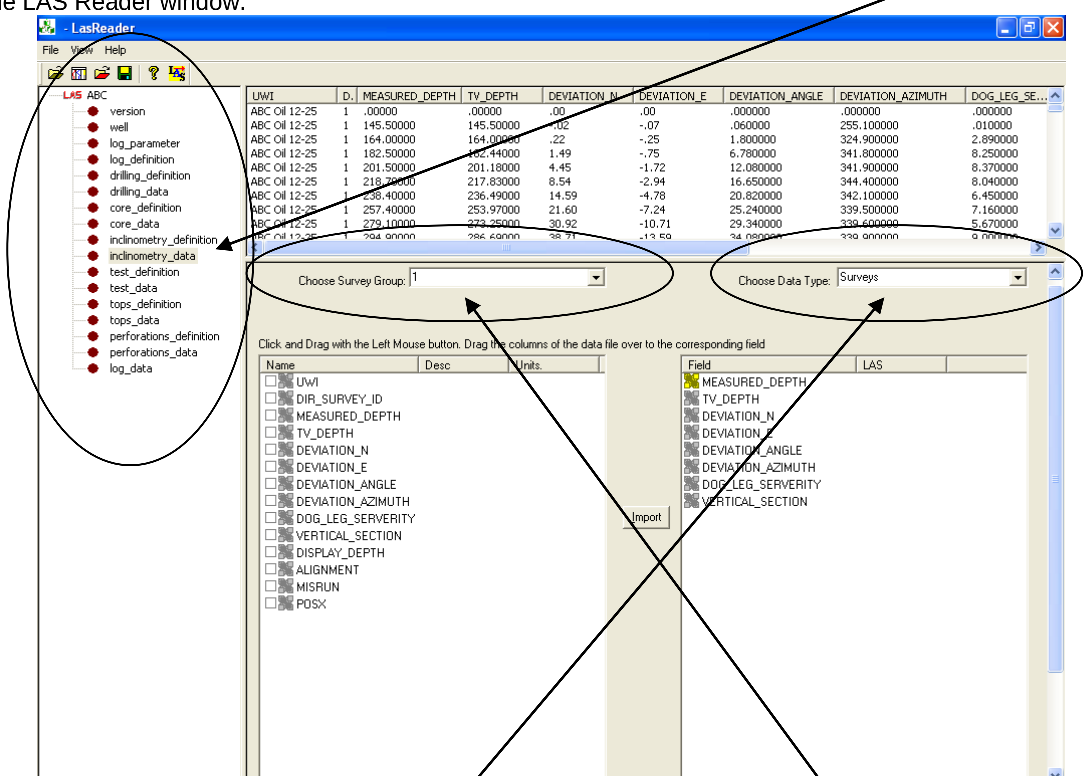
Importing / Mapping of LAS Inclinometry (survey) data.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the  **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the Inclinometry data set** from the **tree list on the left** of the LAS Reader window.

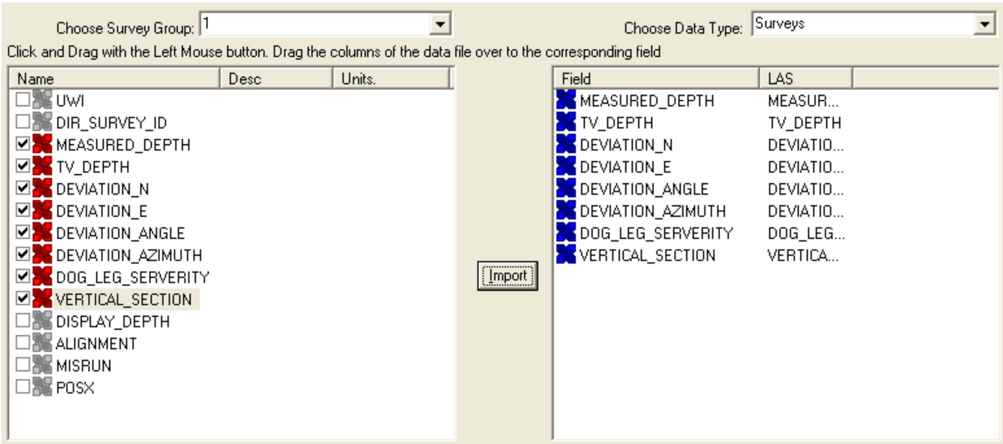


3. Select **Surveys** from the **Choose Data type drop box**.
4. Select the **survey group** you wish to import the data into from the **Choose Survey group drop box**

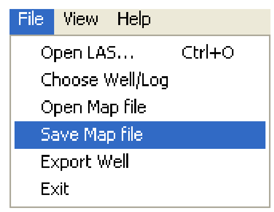
5. On the lower left side of the window **click and drag** the **Survey data** you wish to import to the **survey data type field** on the lower right side and release it when the data field becomes highlighted. Mandatory fields are highlighted in a yellow symbol and must be mapped for the record to exist in the database.

N.B. The user can remove the mapping by right clicking on the data field and selecting remove mapping.

6. **Repeat** the **Clicking and Dragging** of LAS field data to the data fields of the database table for the survey data until all have been mapped.



7. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Inclinometry data (survey data) again.

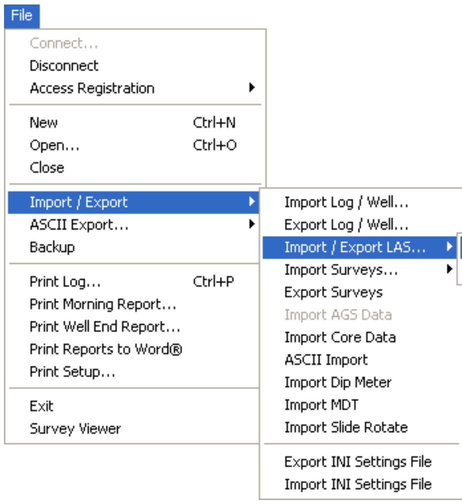


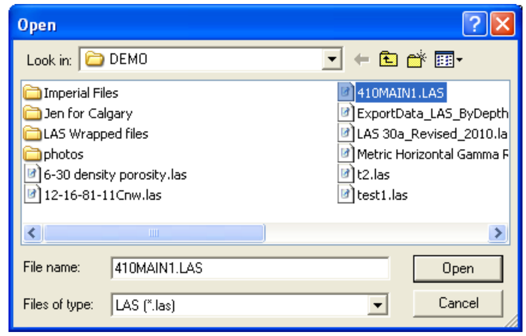
8. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

9. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

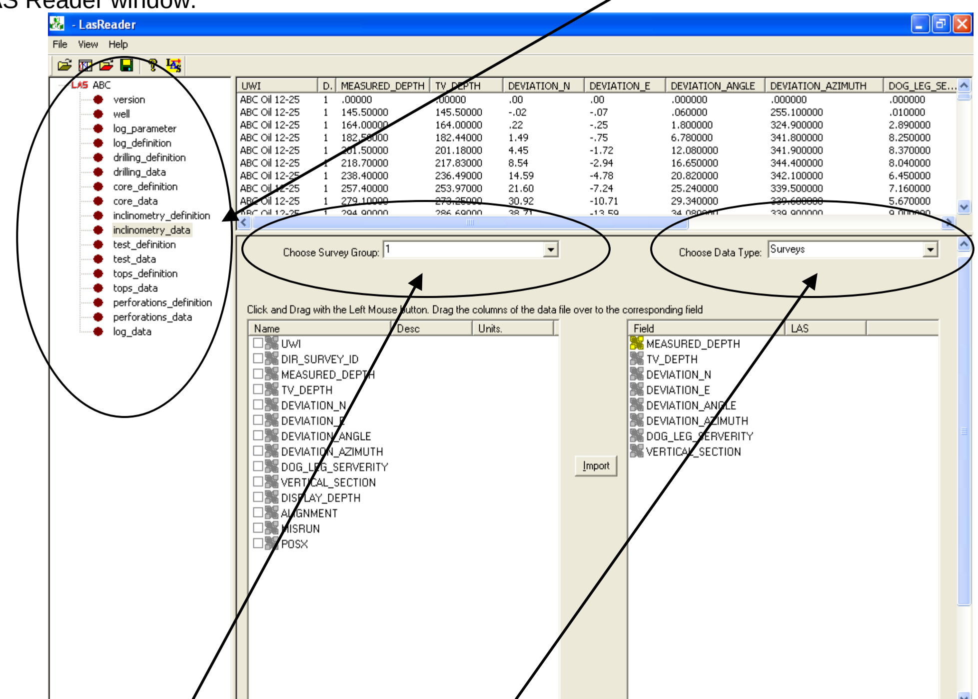
Import LAS Inclinometry data with a Mapped file.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





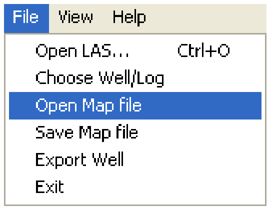
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the Inclinometry data set** from the **tree list on the left** of the LAS Reader window.

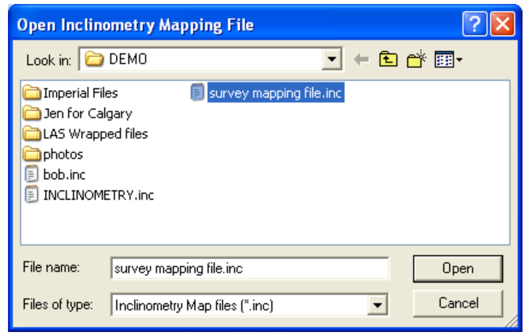


3. **Select Surveys** from the **Choose Data type drop box**.

4. **Select** the **survey group** you wish to import the data into from the **Choose Survey group drop box**

5. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.



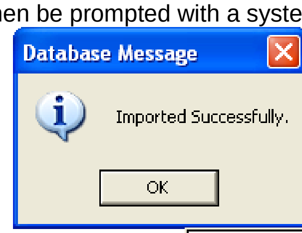


6. **Select** the mapping file with the ***.inc** saved from previous imports of similar data to the database and **click** on the Open **button**.

N.B. The user can **Right click** on the Data field to remove the mapping.

7. The user can map more data on the left side of the window **by clicking and dragging** the **data** you wish to import to the **data field** on the right side and release it when the layer becomes highlighted.

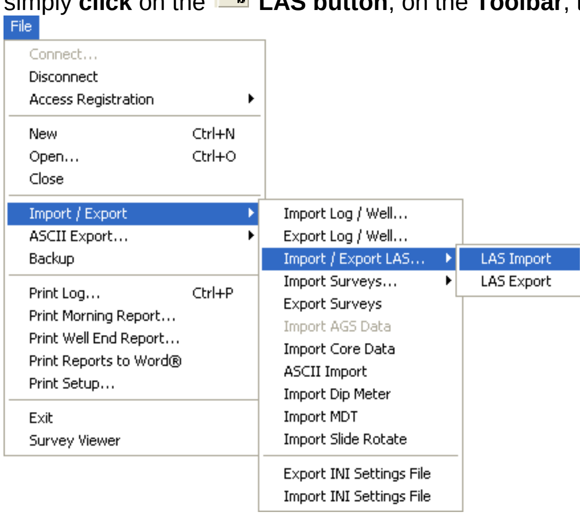
8. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

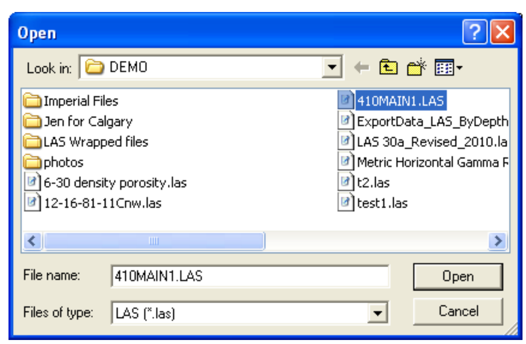


9. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

Importing / Mapping of Core data.

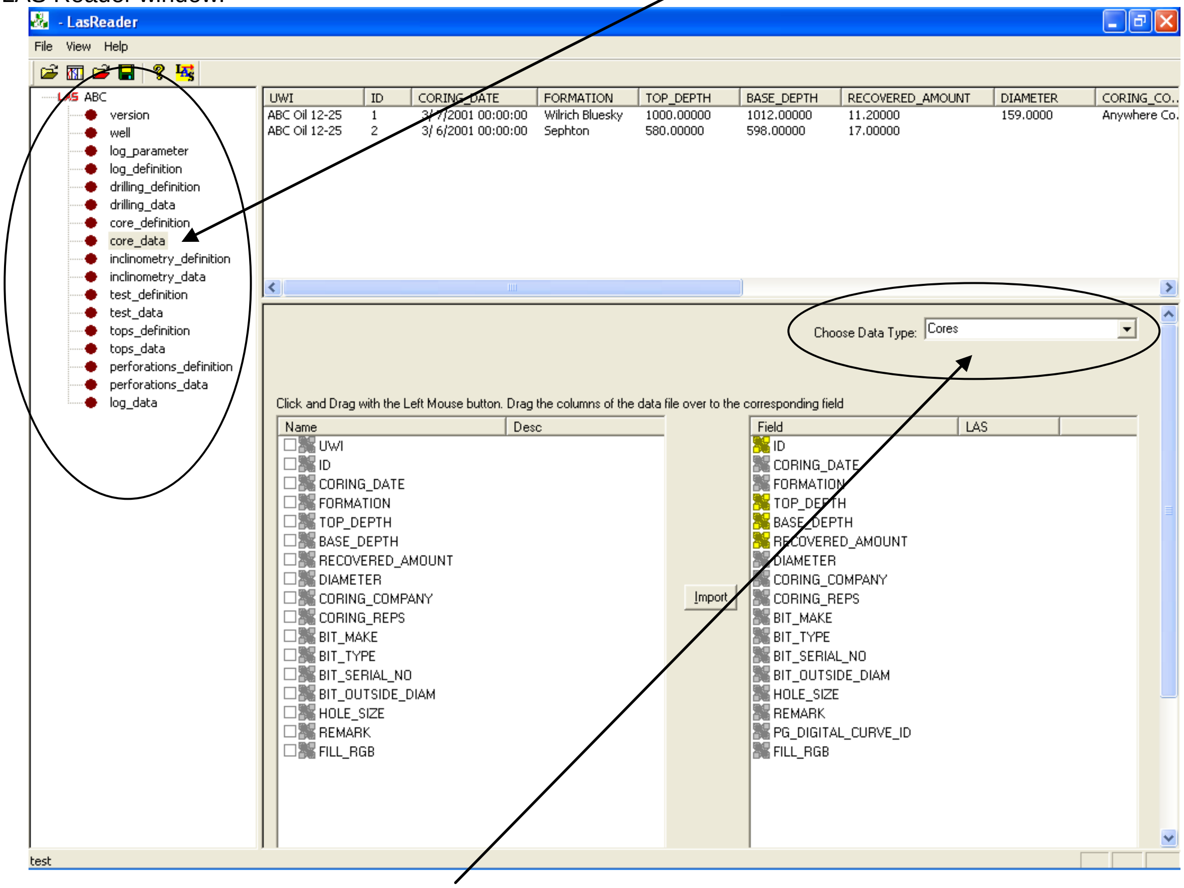
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default

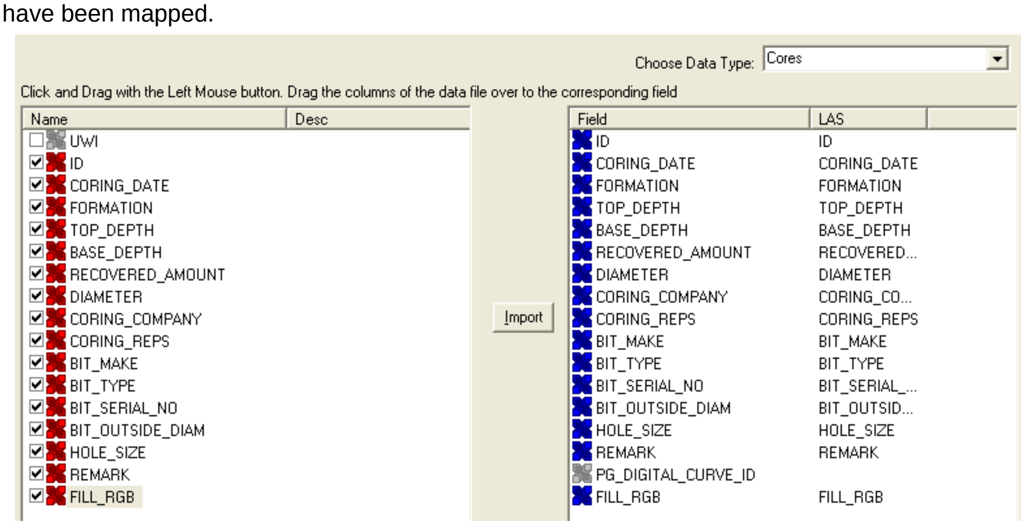
to the importing of Curve data. The user must **highlight the Core data set** from the **tree list on the left** of the LAS Reader window.



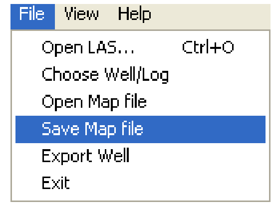
3. **Select Cores** from the **Choose Data type drop box**.
4. On the lower left side of the window **click and drag** the **Core data** you wish to import to the **core data type field** on the lower right side and release it when the data field becomes highlighted. Mandatory fields are highlighted in a yellow symbol  and must be mapped for the record to exist in the database.

N.B. The user can remove the mapping by right clicking on the data field and selecting remove mapping.

5. **Repeat** the **Clicking and Dragging** of LAS field data to the data fields of the database table for the core data until all have been mapped.



6. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Core data again.

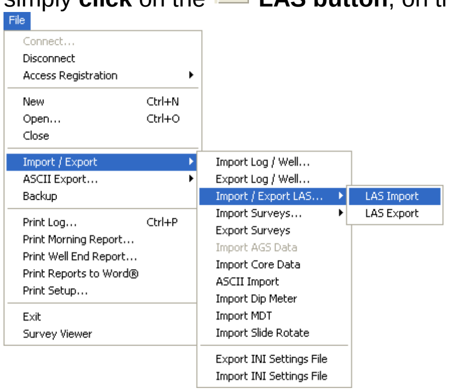


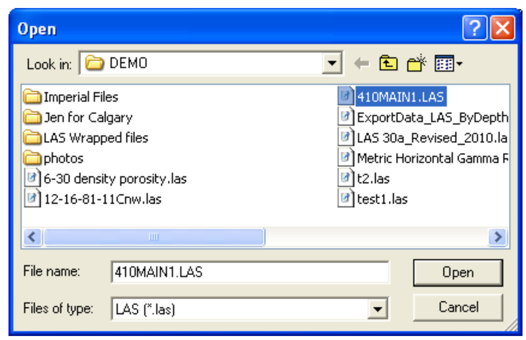
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

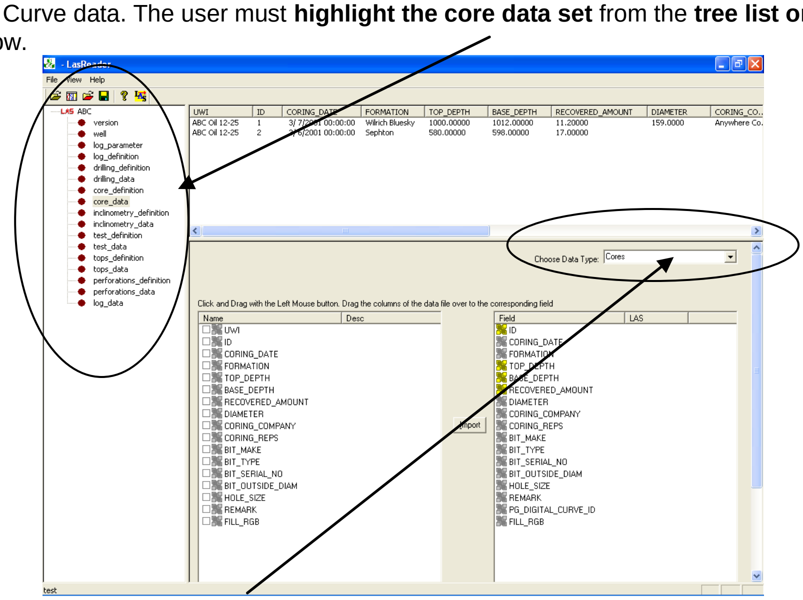
Import LAS Core data with a Mapped file.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.



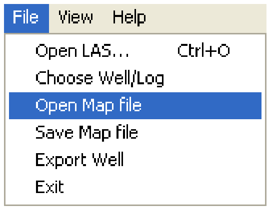


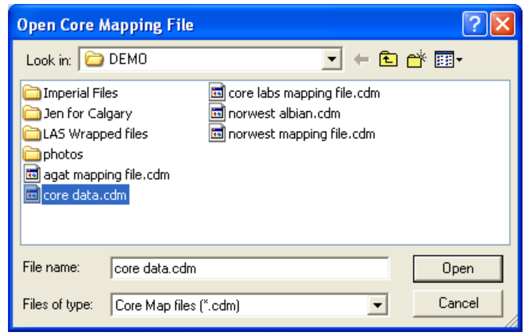
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the core data set** from the **tree list on the left** of the LAS Reader window.



3. **Select Cores** from the **Choose Data type drop box**.

4. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.



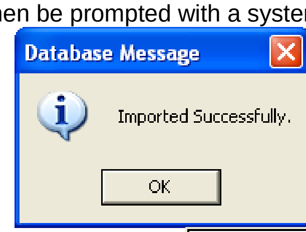


5. **Select** the mapping file with the ***.cdm** saved from previous imports of similar data to the database and **click** on the Open **button**.

N.B. The user can **Right click** on the Data field to remove the mapping.

6. The user can map more data on the left side of the window **by clicking and dragging** the **data** you wish to import to the **data field** on the right side and release it when the layer becomes highlighted.

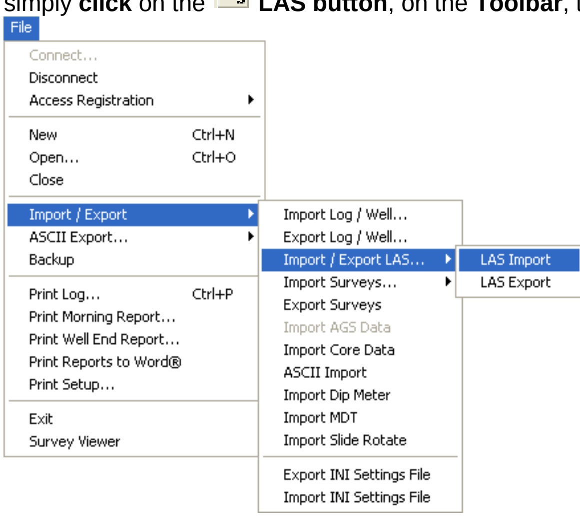
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

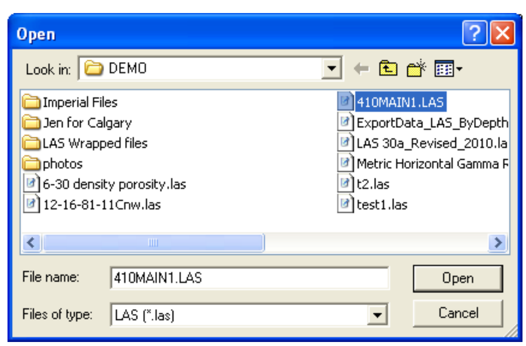


8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

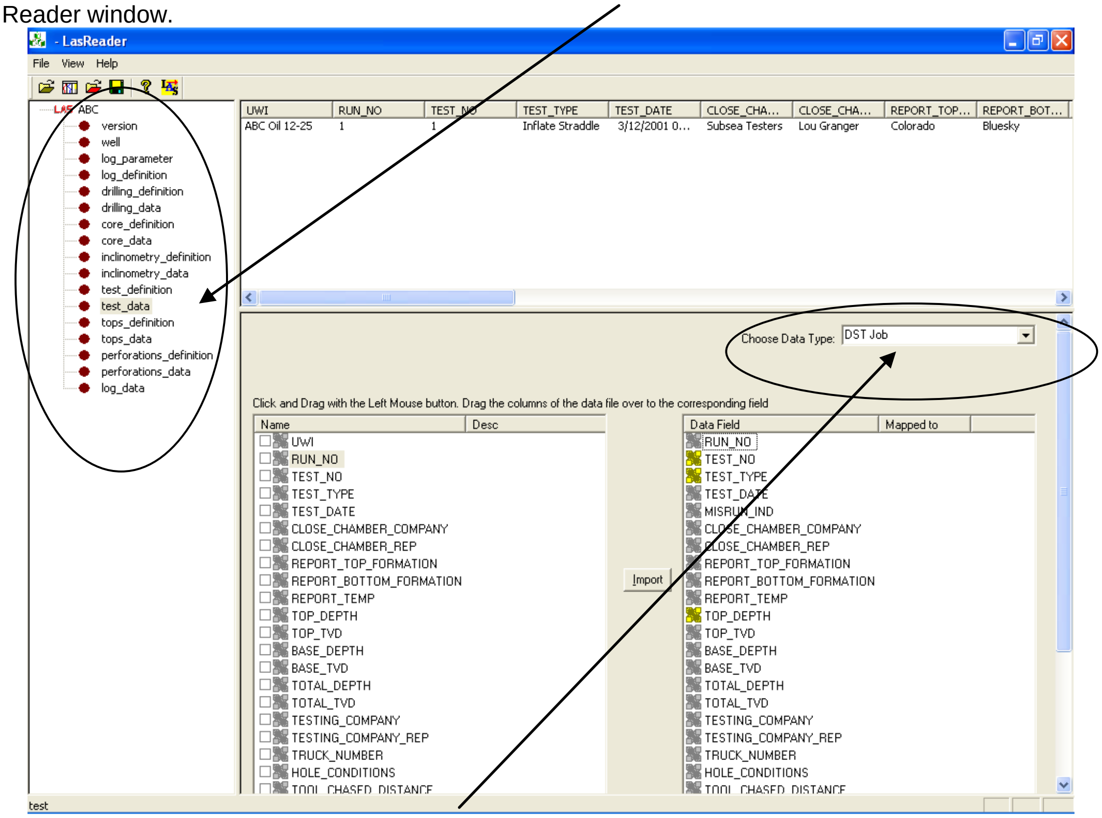
Importing / Mapping of Drill Stem Test (DST) data.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from. Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the DST data set** from the **tree list on the left** of the LAS Reader window.

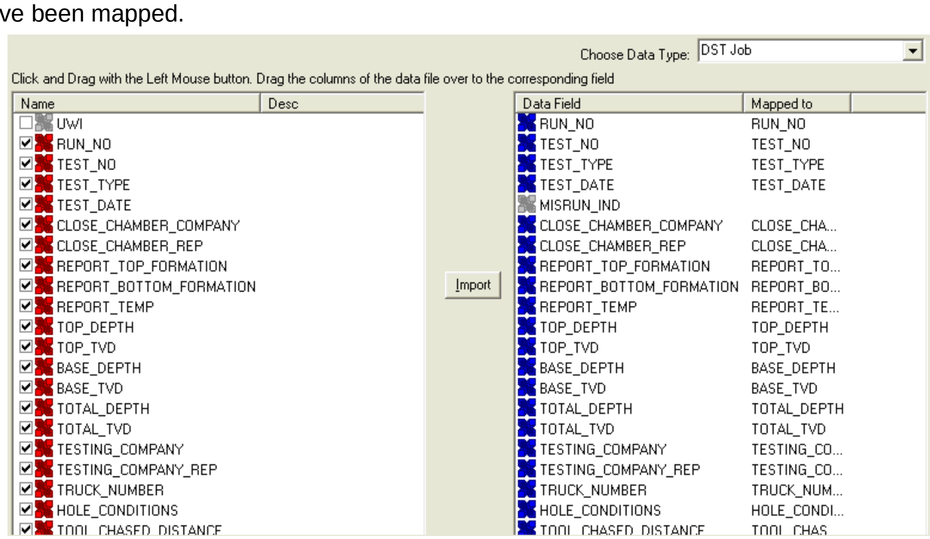


3. **Select DST Job** from the **Choose Data type drop box**.

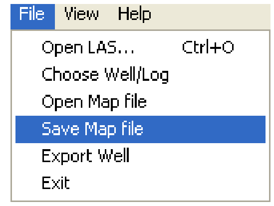
4. On the lower left side of the window **click and drag** the **DST data** you wish to import to the **core data type field** on the lower right side and release it when the data field becomes highlighted. Mandatory fields are highlighted in a yellow symbol and must be mapped for the record to exist in the database.

N.B. The user can remove the mapping by right clicking on the data field and selecting remove mapping.

5. **Repeat** the **Clicking and Dragging** of LAS field data to the data fields of the database table for the DST data until all have been mapped.



6. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS DST data again.

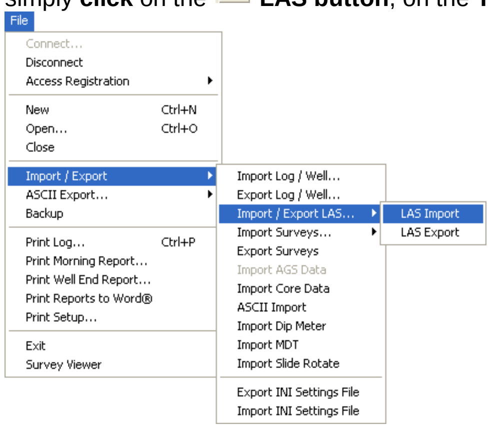


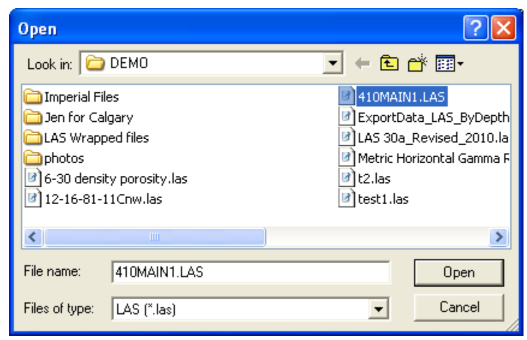
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

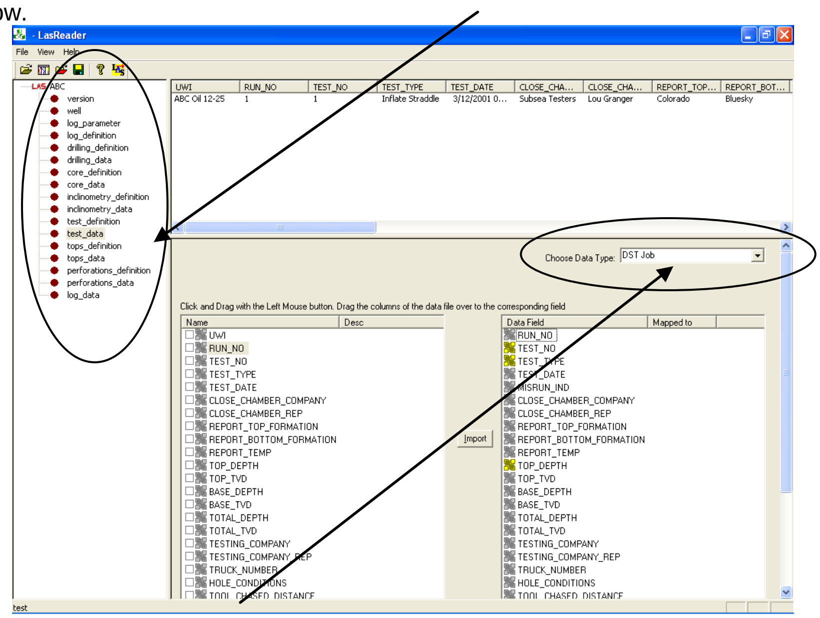
Import LAS Drill Stem Test data with a Mapped file.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.



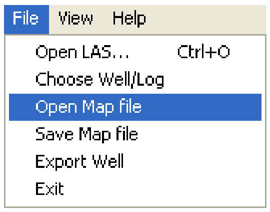


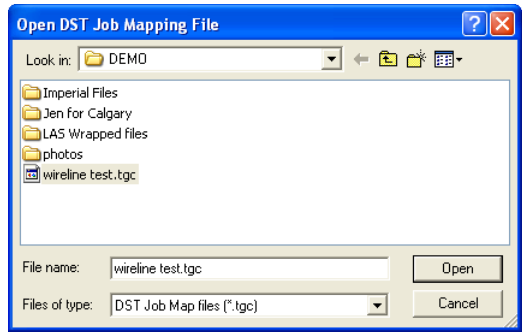
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the core data set** from the **tree list on the left** of the LAS Reader window.

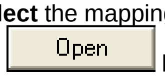


3. Select **DST Job** from the **Choose Data type drop box**.

4. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.



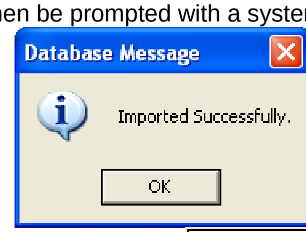


5. **Select** the mapping file with the ***.tgc** saved from previous imports of similar data to the database and **click** on the  **button**.

N.B. The user can **Right click** on the Data field to remove the mapping.

6. The user can map more data on the left side of the window **by clicking and dragging** the **data** you wish to import to the **data field** on the right side and release it when the layer becomes highlighted.

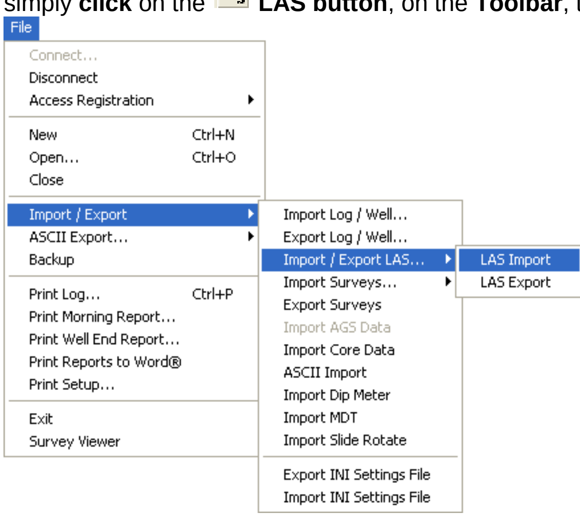
7. **Click** on the  **button**. You will then be prompted with a system message after the import has finished.

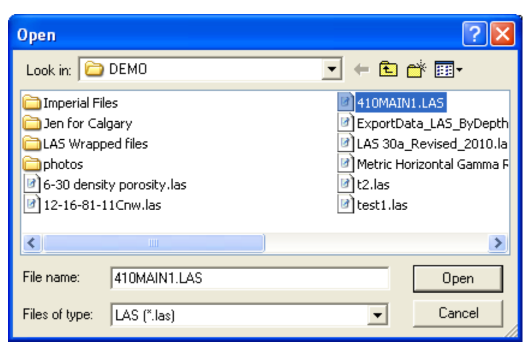


8. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

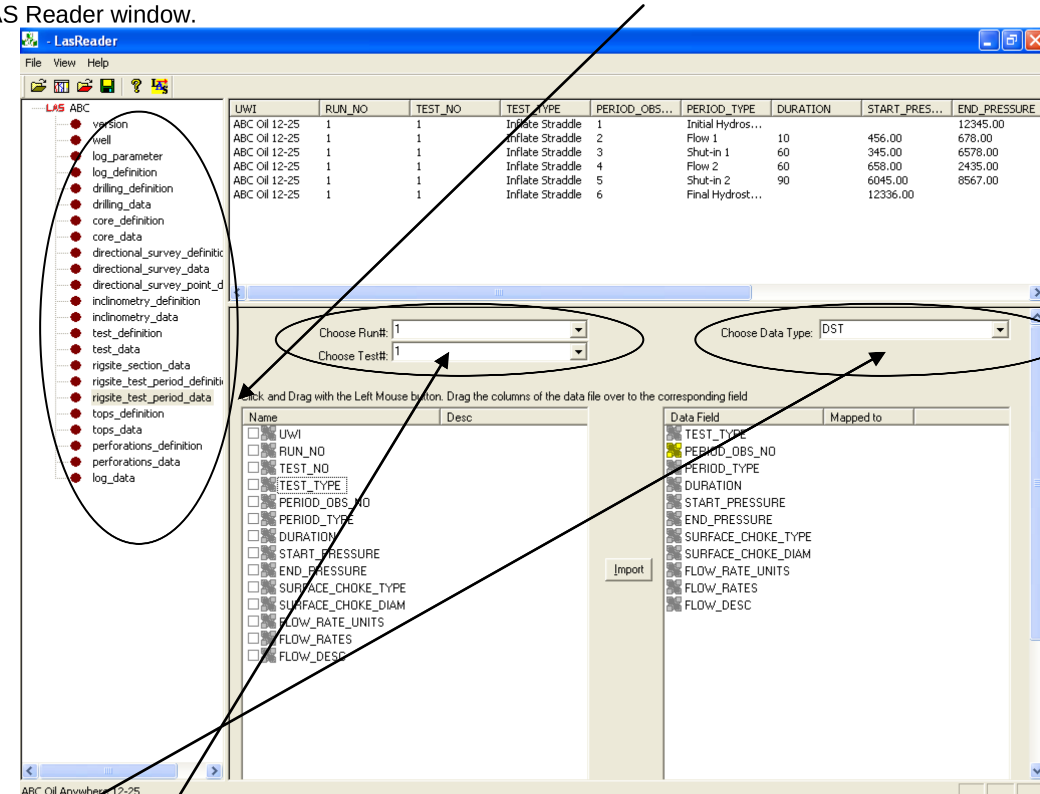
Import / Map - Drill Stem Test (DST) period data.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





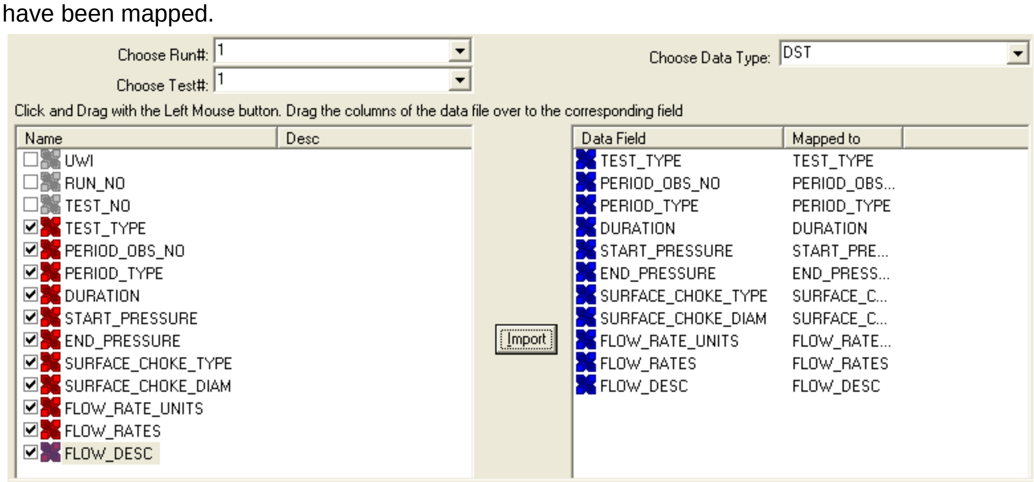
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. The user must **highlight the DST period data set** from the **tree list on the left** of the LAS Reader window.

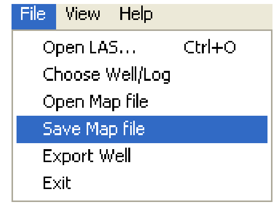


3. **Select DST** from the **Choose Data type drop box**.
4. If the Data has the Test Run # and the Test # we can map those over. If not then we have to **choose the Test Run # and the Test #** from their respective drop boxes.
5. On the lower left side of the window **click and drag** the **DST data** you wish to import to the **core data type field** on the lower right side and release it when the data field becomes highlighted. Mandatory fields are highlighted in a yellow symbol and must be mapped for the record to exist in the database.

N.B. The user can remove the mapping by right clicking on the data field and selecting remove mapping.

6. **Repeat** the **Clicking and Dragging** of LAS field data to the data fields of the database table for the DST data until all have been mapped.



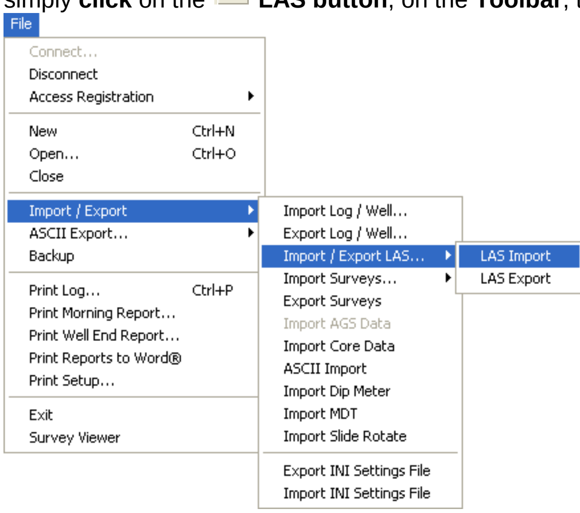


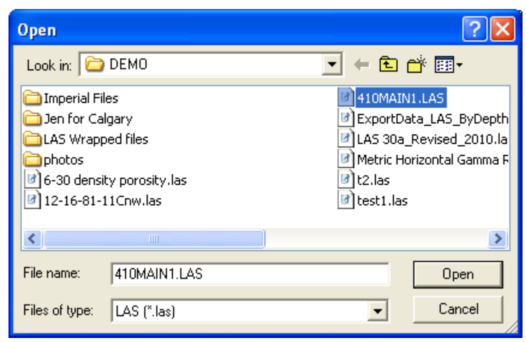
7. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS DST data again.
8. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

9. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

Import LAS Drill Stem Test period data with a Mapped file.

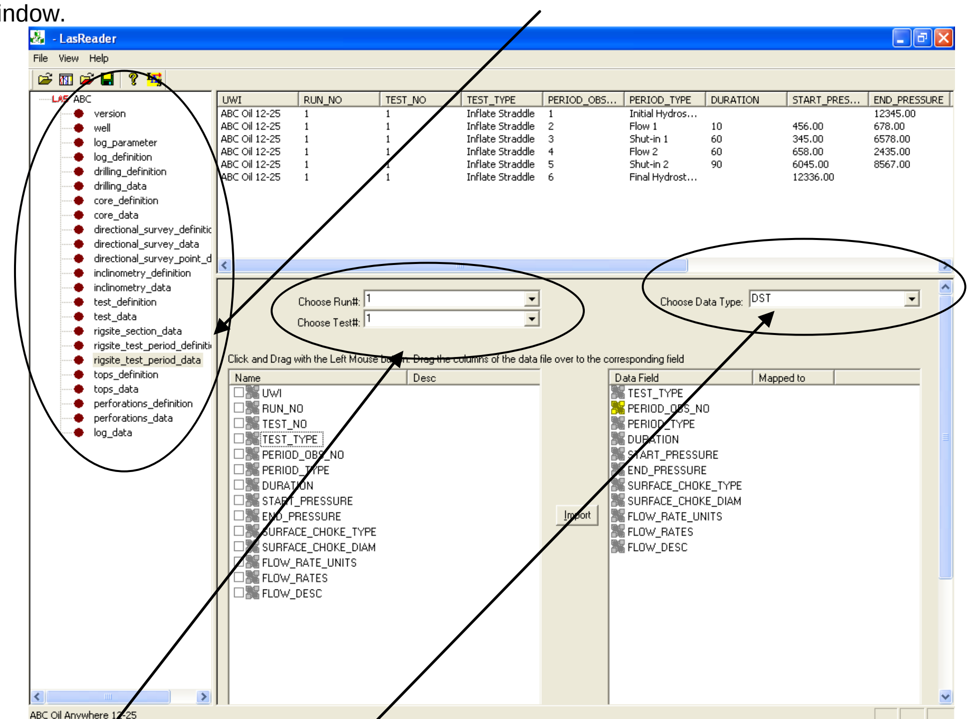
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





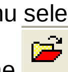
2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default

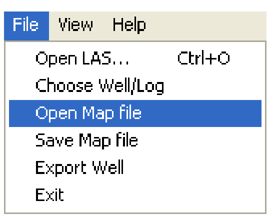
to the importing of Curve data. The user must **highlight the DST period data set** from the **tree list on the left** of the LAS Reader window.

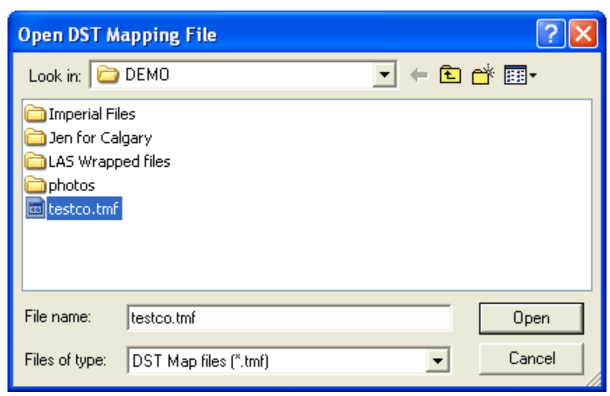


3. **Select DST** from the **Choose Data type drop box**.

4. If the Data has the Test Run # and the Test # we can map those over. If not then we have to **choose the Test Run # and the Test #** from their respective drop boxes.

5. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.





6. **Select** the mapping file with the ***.tmf** saved from previous imports of similar data to the database and **click** on the 

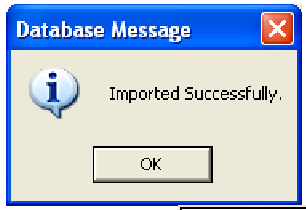
button.

N.B. The user can **Right click** on the Data field to remove the mapping.

7. The user can map more data on the left side of the window **by clicking and dragging** the **data** you wish to import to the **data field** on the right side and release it when the layer becomes highlighted.

8. **Click** on the 

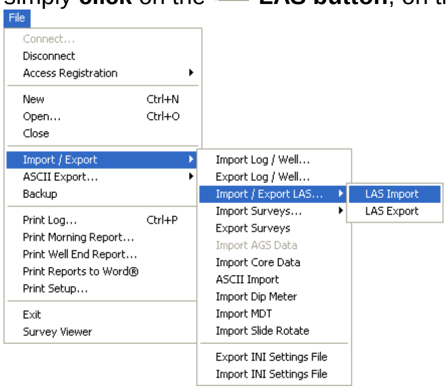
button. You will then be prompted with a system message after the import has finished.

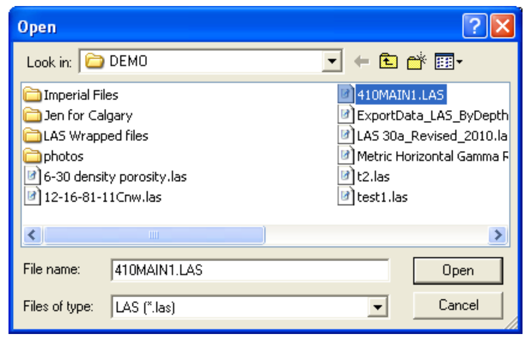


9. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

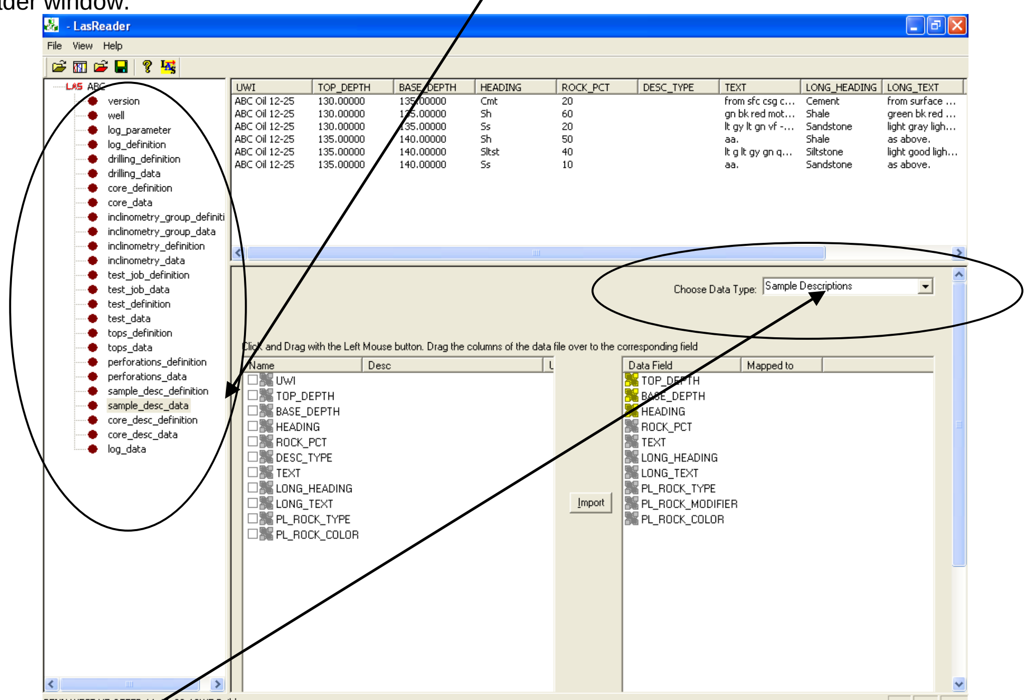
Importing / Mapping of LAS Sample Description data.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the  **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. **Highlight the Sample Description data set** from the **tree list** on the left of the LAS Reader window.

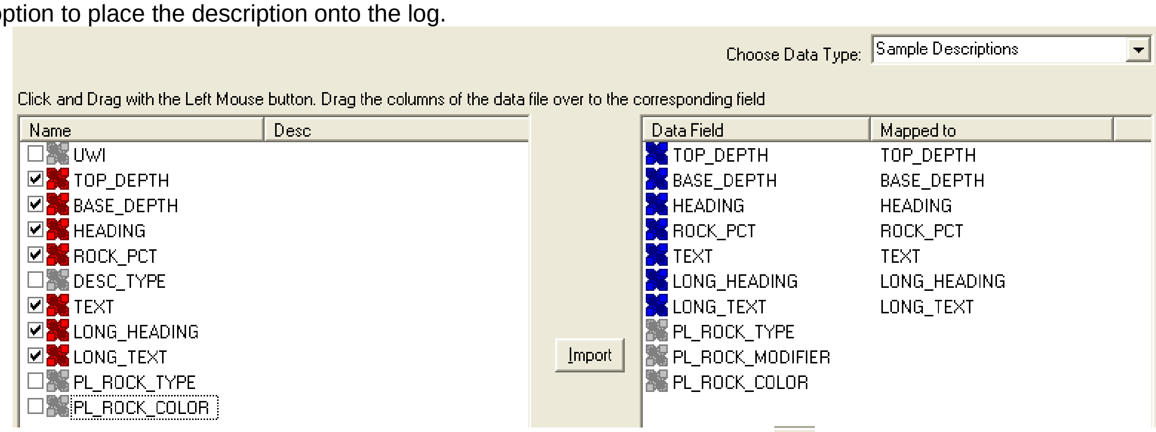


3. **Select Sample Description** from the **Choose Data type drop box**.

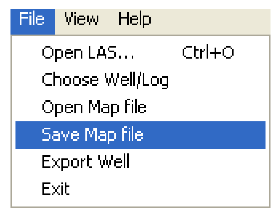
4. On the lower left side of the window **click and drag** the **Sample Description Data** in the LAS file you wish to import to the **sample description table data field** on the lower right side and release it when the data field becomes highlighted.

N.B. The user can **Right click** on the **Data Field** to remove the mapping.

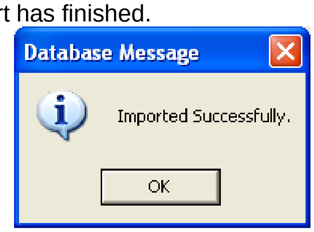
5. **Repeat** the **Clicking and Dragging of the data to the database table** until all the data has been mapped. The user can then use the Sample description report to manipulate the data or the Sample / Core description transfer option to place the description onto the log.



6. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Curve data again.



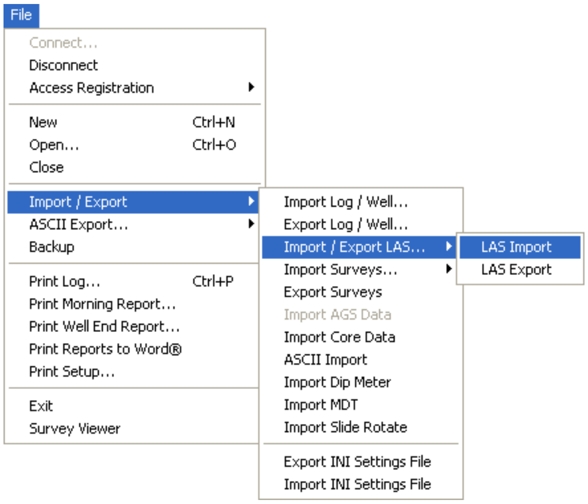
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

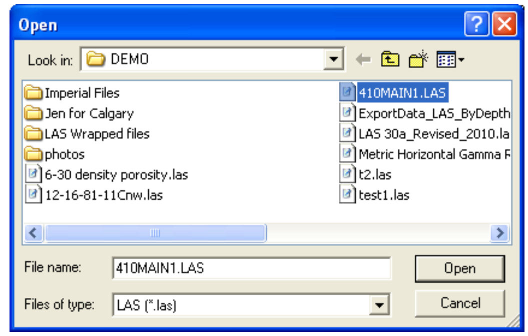


8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

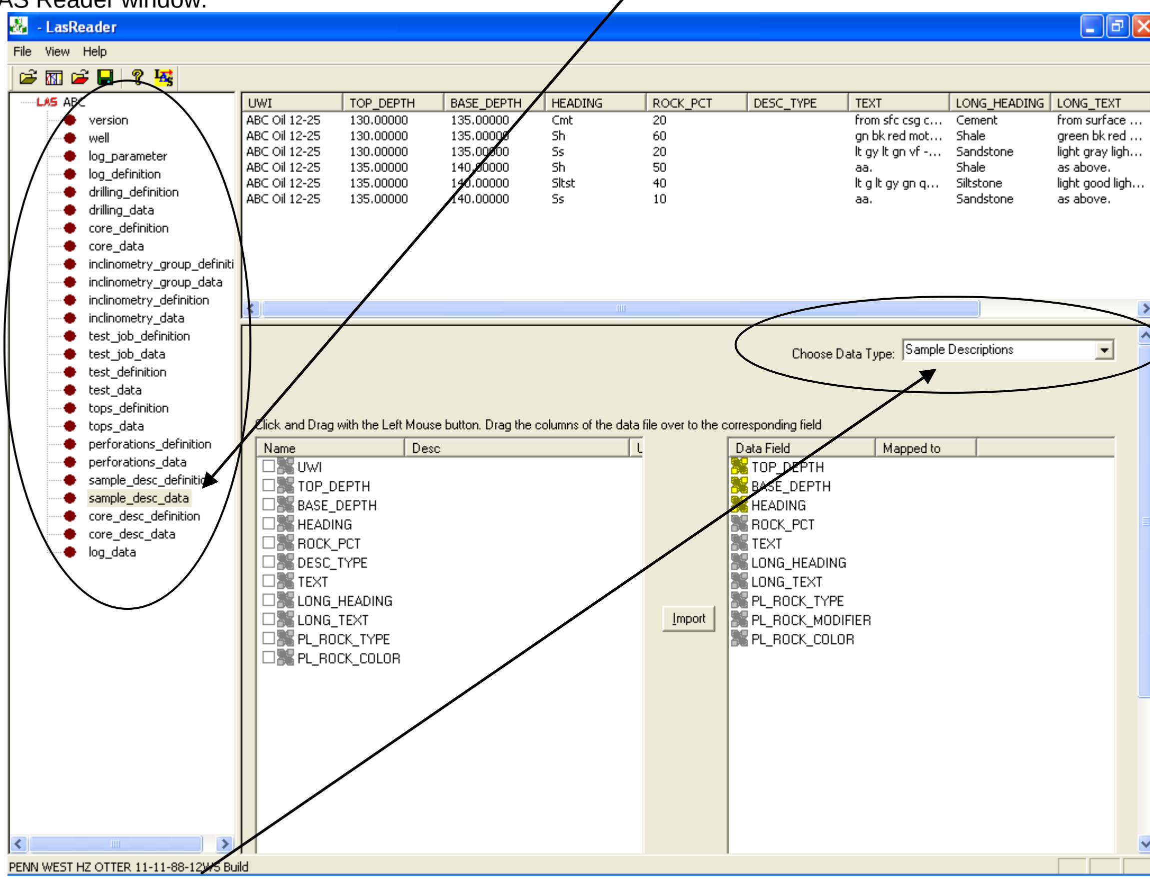
Import LAS Sample Description data from a mapped file.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.

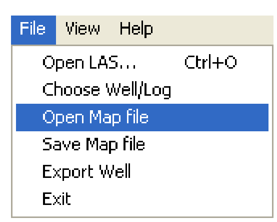




2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the  **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. **Highlight the Sample Description data set** from the **tree list** on the left of the LAS Reader window.



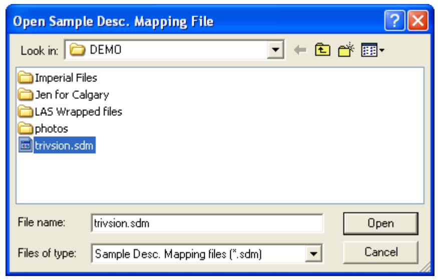
3. **Select Sample Description** from the **Choose Data type drop box**.



4. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that

has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.

N.B. The file extensions are ***.cvm** for curve data, ***.ftm** for formation data, ***.sgc** for survey group data, ***.inc** for survey data, ***.cdm** for core data, ***.tgc** for DST job data, ***.tmf** for DST interval data ***.sdm** for sample descriptions and ***.cdm** for Core Description data.

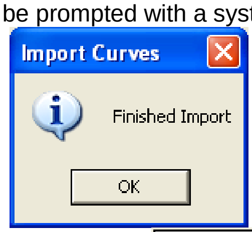


5. **Select** the mapping file with the ***.sdm** saved from previous imports of similar data and **click** on the Open **button**.

N.B. The user can **Right click** on the **Data Field** to remove the mapping

6. The user can map more data on the left side of the window **by clicking and dragging** the **data type** you wish to import to the **data field** on the right side and release it when the field becomes highlighted.

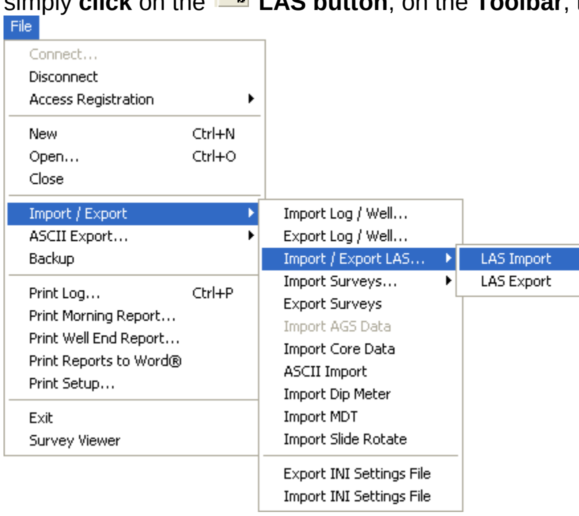
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

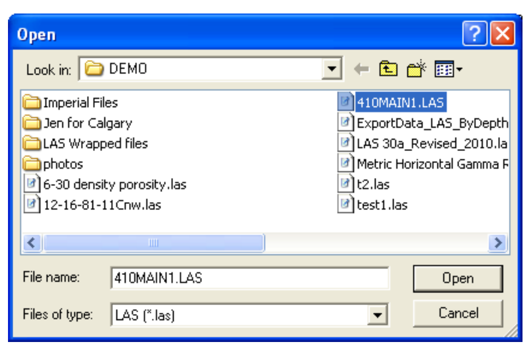


8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

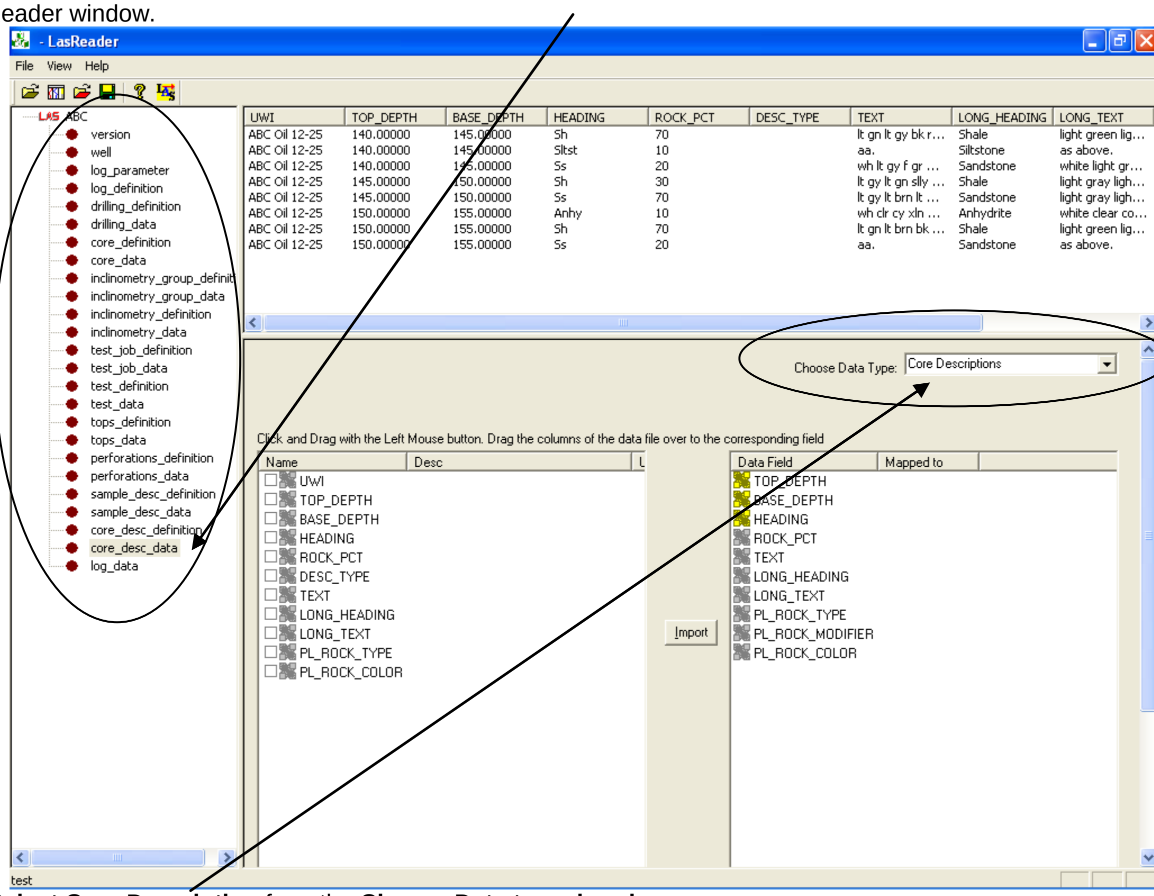
Importing / Mapping of LAS Core Description data.

1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.





2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from. Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default to the importing of Curve data. **Highlight the Core Description data set** from the **tree list** on the left of the LAS Reader window.

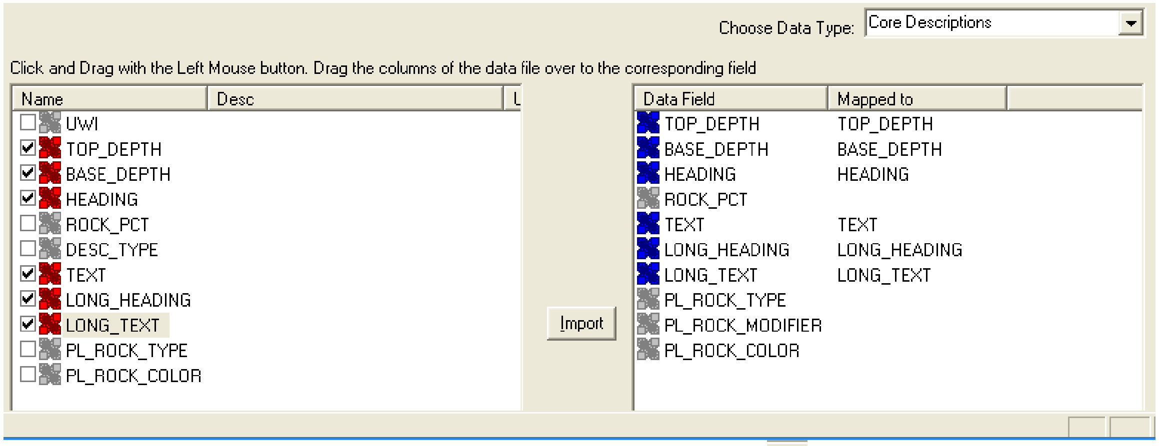


3. **Select Core Description** from the **Choose Data type drop box**.

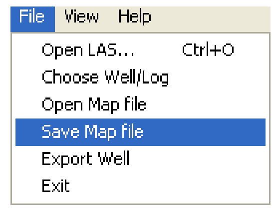
4. On the lower left side of the window **click and drag** the **Core Description Data** in the LAS file you wish to import to the **core description table data field** on the lower right side and release it when the data field becomes highlighted.

N.B. The user can **Right click** on the **Data Field** to remove the mapping.

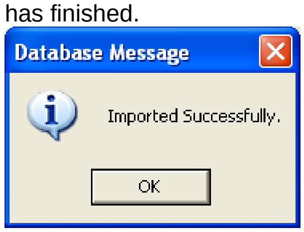
5. **Repeat** the **Clicking and Dragging of the data to the database table** until all the data has been mapped. The user can then use the Sample description report to manipulate the data or the Sample / Core description transfer option to place the description onto the log.



6. The user can save this mapping procedure at this time by **clicking** on the **button** or **click** on the **File menu** and **Select the Save map file** option and giving this procedure a file name and folder to be used again at a later date when you would have to import similar LAS Curve data again.



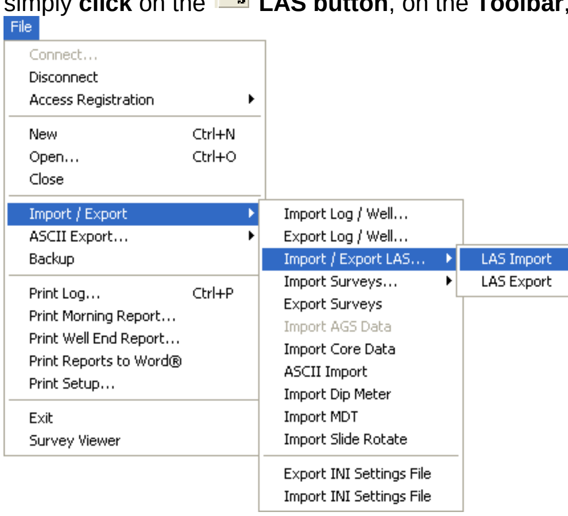
7. **Click** on the Import **button**. You will then be prompted with a system message after the import has finished.

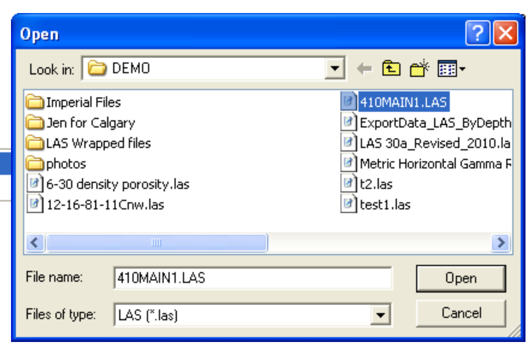


8. **Acknowledge** the Finished Import message. **Click** on the OK **button** and then **click** on the **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

Import LAS Core Description data from a mapped file.

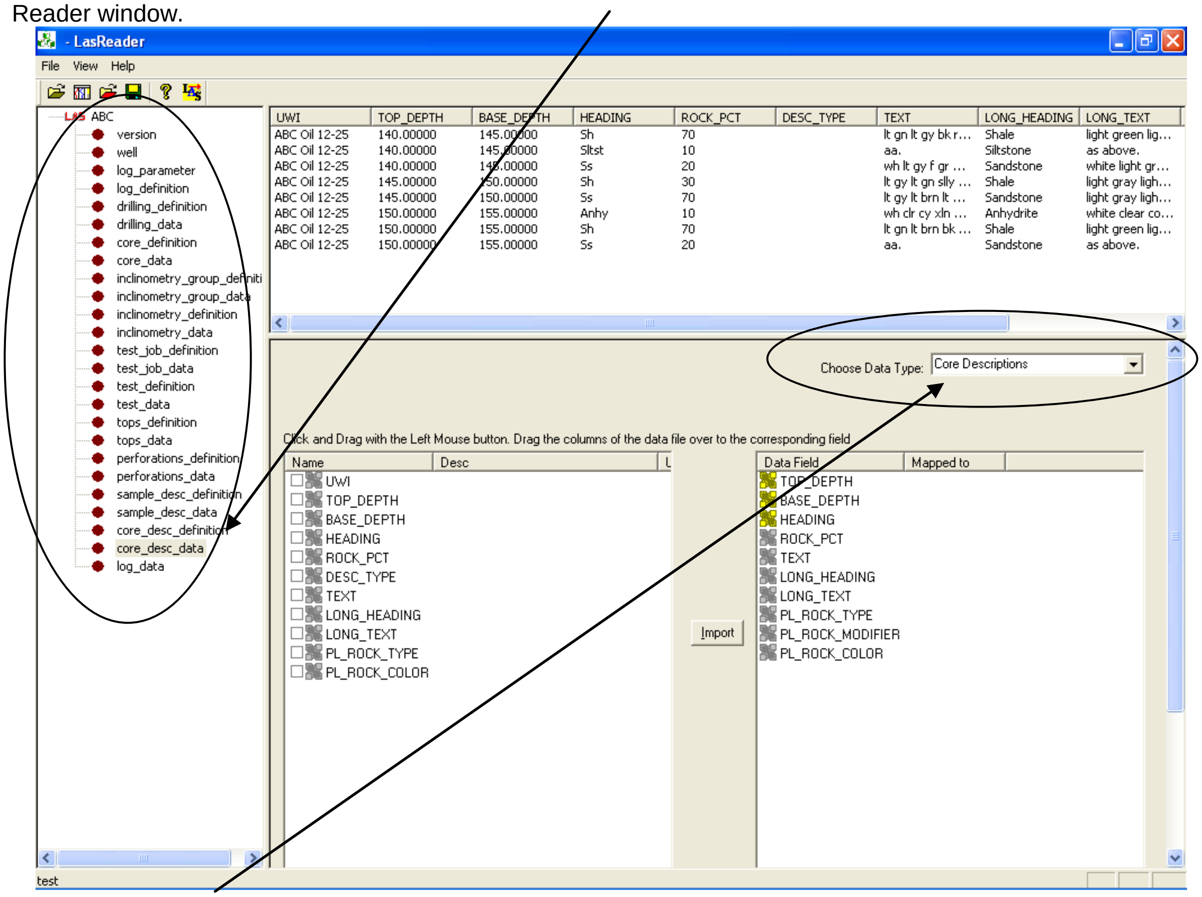
1. With your well open in Power*Log / Curve or Core **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.



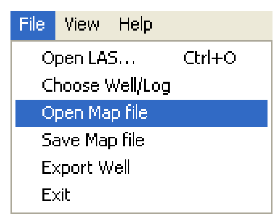


2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from**.** Find the file and directory and highlight the file by **click** on it **once** and then **click** on the Open **button**. If your log is open at the time you will see something similar to the window shown below. We will default

to the importing of Curve data. **Highlight the Core Description data set** from the **tree list** on the left of the LAS Reader window.

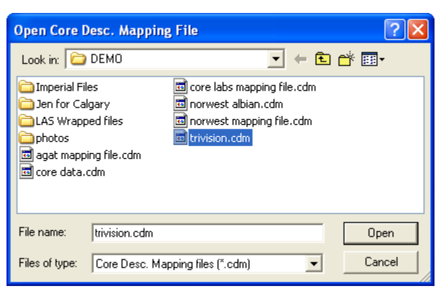


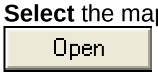
3. **Select Core Description** from the **Choose Data type drop box**.



4. Select **Open Map file**, under the **File** menu selection if you would like to open a saved mapping file for a particular data set. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Open Map file window that has been saved from previous imports and they will be initiated by the Choose data type to import drop box selection.

N.B. The file extensions are ***.cvm** for curve data, ***.ftm** for formation data, ***.sgc** for survey group data, ***.inc** for survey data, ***.cdm** for core data, ***.tgc** for DST job data, ***.tmf** for DST interval data ***.sdm** for sample descriptions and ***.cdm** for Core Description data.

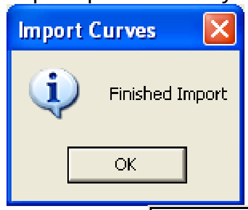


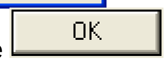
5. **Select** the mapping file with the ***.cdm** saved from previous imports of similar data and **click** on the  **button**.

N.B. The user can **Right click** on the **Data Field** to remove the mapping

6. The user can map more data on the left side of the window **by clicking and dragging** the **data type** you wish to import to the **data field** on the right side and release it when the field becomes highlighted.

7. **Click** on the  **button**. You will then be prompted with a system message after the import has finished.



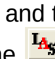
8. **Acknowledge** the Finished Import message. **Click** on the  **button** and then **click** on the  **button** to exit or **click** on the **File menu** and **select the Exit** option to close the LAS Reader Window.

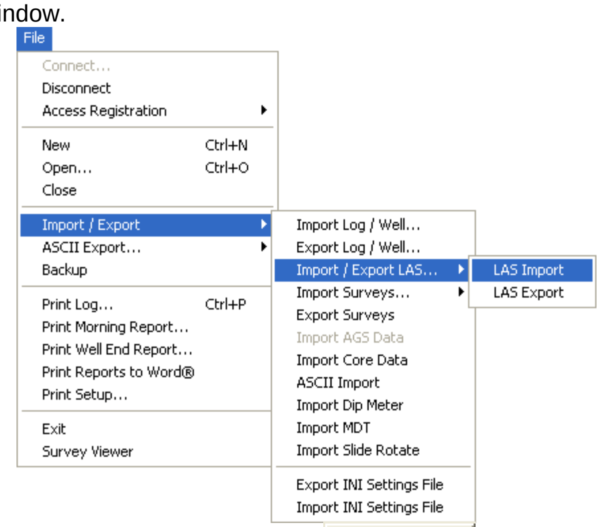
Export LAS Well Data and Curve Data

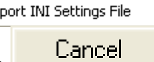
The Power*Suite LAS Import Utility program can also export LAS data for almost all of the table data as well as the export of Power*Suite curve data into an LAS V3.0 File.

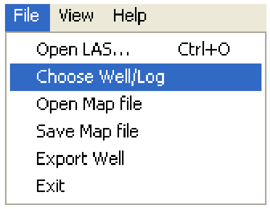
How to Export an LAS File with Well Data and Curve Data

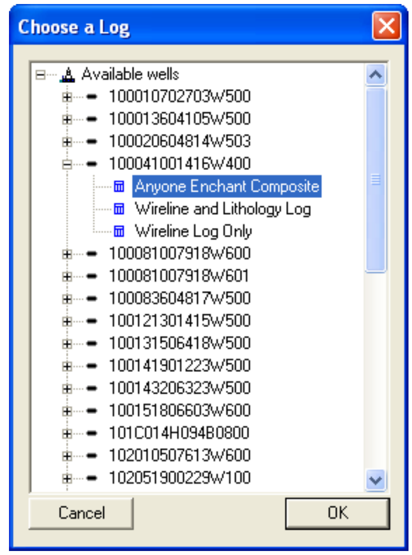
This allows the user to export all of the well's data in an LAS V3.0 data format. This will export every table from the database very similar to the Data transfer module but not in a binary format but in a format that is readable by an LAS reader.

1. **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **Import / Export LAS** and then **select LAS Import** from the pop out-menu or simply **click** on the  **LAS button**, on the **Toolbar**, to activate the **LAS Reader** window.

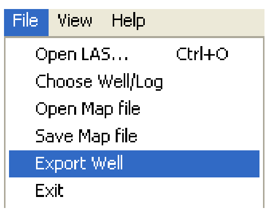


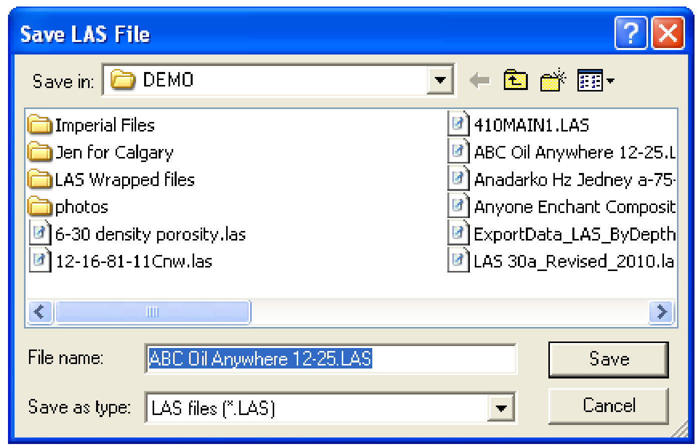
2. This will then activate the Open Las window. **Click** on the  **button**. Even if your log is open at the time you will see a blank LAS Reader window.
3. **If your well / log is open that you want to export data out of skip to step 8**. If you want to export data for a different log / well you can then choose a different log / well by selecting **Choose Well / Log**, under the **File** menu selection if you would like to open a different Well / Log or you did not have a log open when the LAS Reader Application was activated. Or, you can **click** on the  **button** on the **Toolbar**. This will activate the Choose a log window



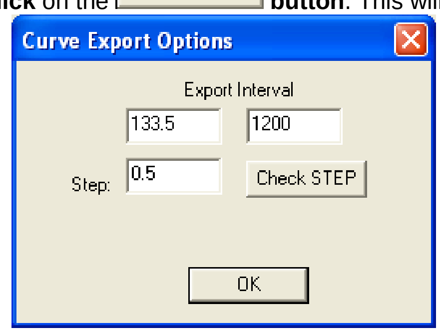


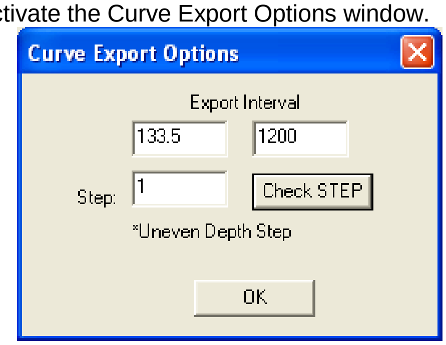
4. **Click** on the **+ beside available wells** to open the tree list of the wells in your database.
5. **Click** on the **dot beside the UWI** of the well to show the list of logs available.
6. **Click** on the **log format** (highlight) you want that has the curve layers available to import into.
7. **Click** on the OK **button**. This will open another log / well for you to import data into or export data out of.
8. Select **Export Well**, under the **File** menu selection **or** you can **click** on the  **button** on the **Toolbar**. This will activate the Save LAS file window.





9. We will default the file name to the well name that was open when you activated the LAS reader. If the file name is OK then **click** on the Save **button**. This will activate the Curve Export Options window.





10. The user can modify the interval and the step if they so desire. The step may effect the curve data at the end of the file as they step may alter the final readings on an LAS file curve depths. We default to the best step available but the user can change the step and then **click** on the Check STEP **button** to verify the step is ok.

We take the first curve depth from the shallowest curve and the last curve depth from the deepest of the curves and modify the step so that all the data will have a common step.

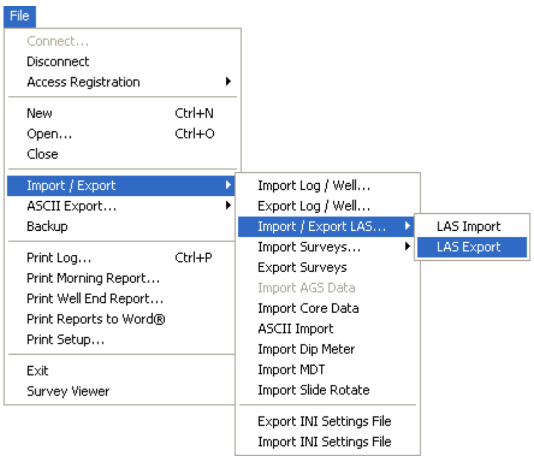
11. **Click** on the OK **button** when you are done. This will activate a please wait window and when the window disappears the file has been created in the folder you have chosen.

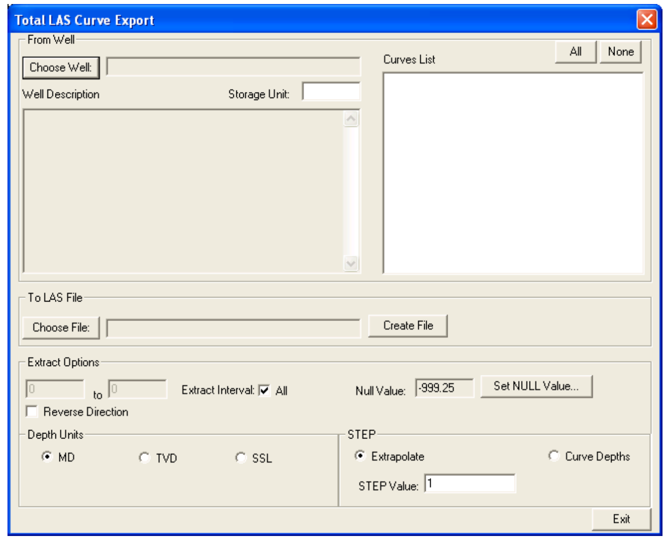
Export LAS Curve Data Files

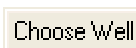
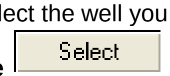
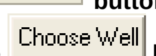
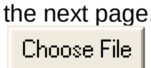
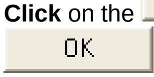
The Power*Suite LAS Export Utility program can be accessed through the Power*Suite folder and facilitates the export of Power*Suite curve data into an LAS File.

How to Export an LAS Curve Data File

1. Under the **File** menu selection, **click** on **Import/Export**, **click** on **Import / Export LAS** and then select **LAS Import** from the pop out menu. This will activate the **LAS Export window**.

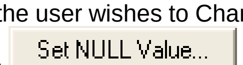


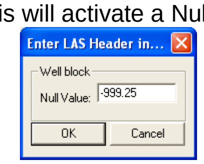


2. **Click** on the  **button**. This will activate a list of all the wells in your Database.
3. Select the well you wish to export your LAS Curve data for by **clicking on the well name** and then **clicking on the**  **button or** by **double click on the well**. You should now see your well name in the field beside the  **button**. Also, you should see a list of curves in the **Curve List** field. An example of this is shown on the next page.
4. **Click** on the  **button** and **type in a file name** and path for that file in the window. **Click** on the  **button** when you have done.
5. Select the Curves you wish to create a file for by **click on the curve name** in the Curve name field **or** by **clicking** on the  **button** to select all the curves.
6. **Select the step type** you wish to use for the export.

Extrapolate will give you the best incremental data utilizing a constant step extrapolating the data to replicate this constant step. The **Curve depths** selection will merge the curves (if more than one curve is selected) and will export the data as it has been collected into the database.

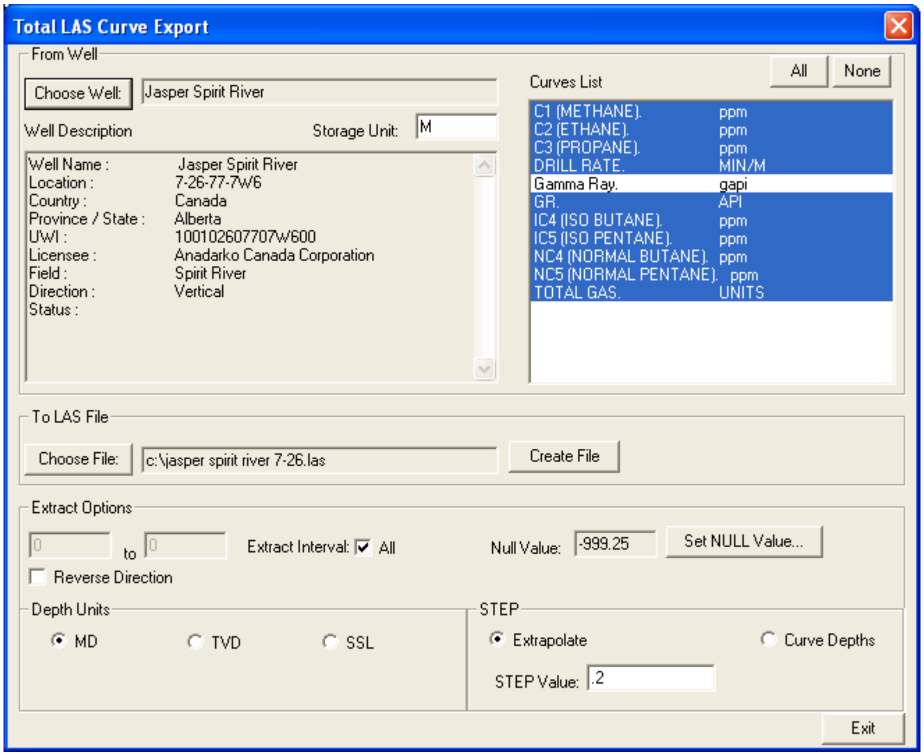
7. **Type** in an appropriate **step** (depth increment) or utilize the default 1 m depth increment.
8. **Optional** Type in an interval in the From and To fields and deselect the Extract Interval All check box if you wish to export just a portion of the curve data.
9. **Optional** If the user wishes to Change Null Value.

a. **Click** on the  **button**. This will activate a Null Value window.



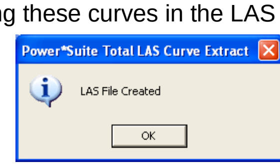
b. Type in another Null value if the default null value of –999.25 is not what you want for a null value and then **click** on the OK **button**.

10. **Optional** Select the reverse direction check box if you want the data in descending order.
11. **Optional** Select the depth unit values other than (MD) Measured Depth (default). Click on either radio button beside the other such selections as (TVD) True Vertical Depth or (SSL) Subsea Level.



12. **Click** on the Create File **button**. This will activate a LAS file generation window indicating which curves are being exported. Then the process amalgamates all the curve data into a single LAS File. When the file generation has been completed a System Message will be generated.

    There may be a message box encountered during this process indicating some of the curves selected have no data. You will have a choice of not including these curves in the LAS Export file.

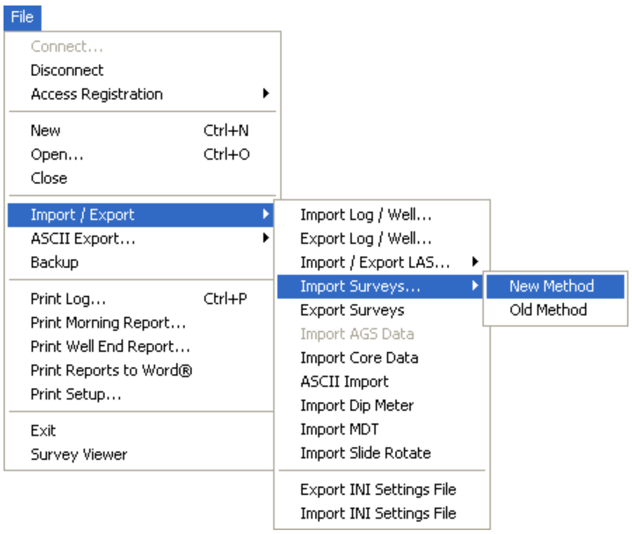


13. Once the File has been created acknowledge the ensuing message by **clicking** on the OK **button**.
14. **Click** on the Exit **button** to Close the application or **repeat steps 2-13** to create more LAS Curve data files.

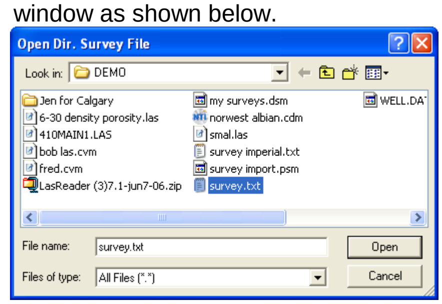
Import Surveys New Method

The new method will allow the user to import ASCII or csv file format into our database. We cannot import xls or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data. If the data has not been formatted correctly and the ASCII file has any non numeric characters such as Easting (E) or Northing (N) the user should utilize the old method of importing. The older method only imports the measured depth inclination and azimuth columns.

Importing Surveys

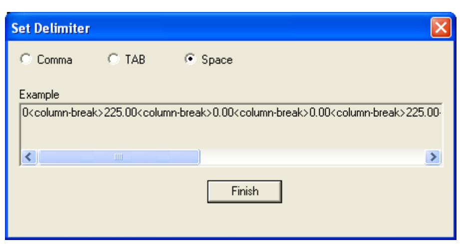


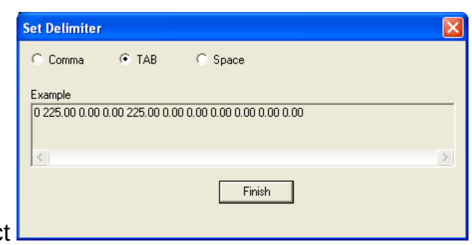
1. To access the Directional Survey Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Surveys** to activate a pop out menu and select **New Method** or click on the **Import Survey button** on the **Toolbar**. This will activate another pop out menu and select new method. This will open Directional Survey file window as shown below.



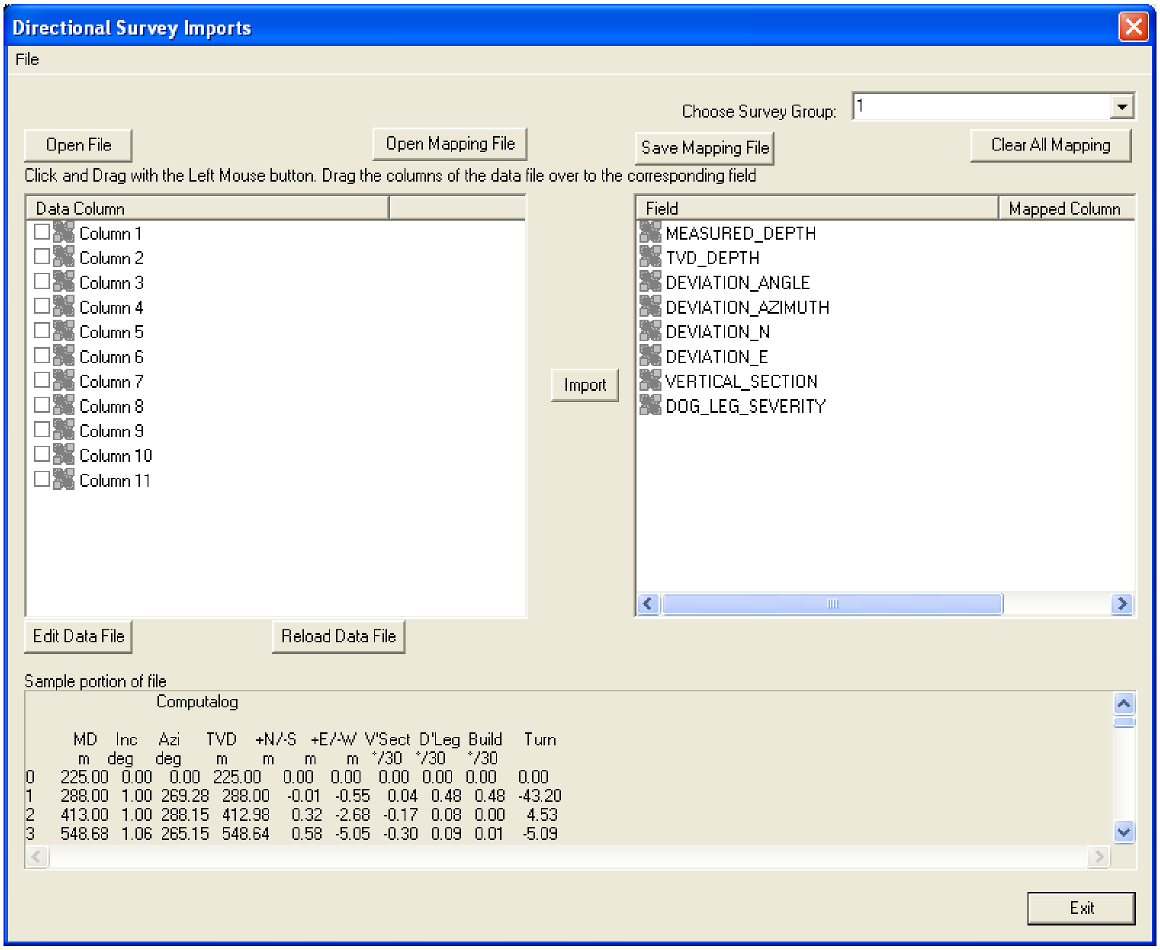
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Directional survey import window shown on the next page.



Overview of the window.

The **left hand side** of the **Directional Survey Point Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **Directional Survey Point Import window** allows the user to see the data fields associated with the Directional Survey Table supplied by Power*Suite.

Choose Survey Group: 1 Drop box allows the user to import the surveys into unique survey groups that have been made in the program.

Open File **Button** allows the user to open another Survey file after the Import window has been opened.

Open Mapping File **Button** allows the user to utilize the mapping file saved from above to remap data columns in the survey file to database fields in the survey point table in the database**.**

Save Mapping File **Button** allows the user to save the mapping between data columns in the survey file to database fields in the survey point table in the database. Once the initial mapping has been done and saved, the user can utilize this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the survey point table again and again if you do not want to.

Clear All Mapping **Button** allows the user to undo all the mapping from data columns in the survey file to database fields in the survey point table that was done either by dragging or by utilizing the mapping file.

Edit Data File **Button** allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.

Reload Data File **Button** reloads the data into the sample portion of the file window.

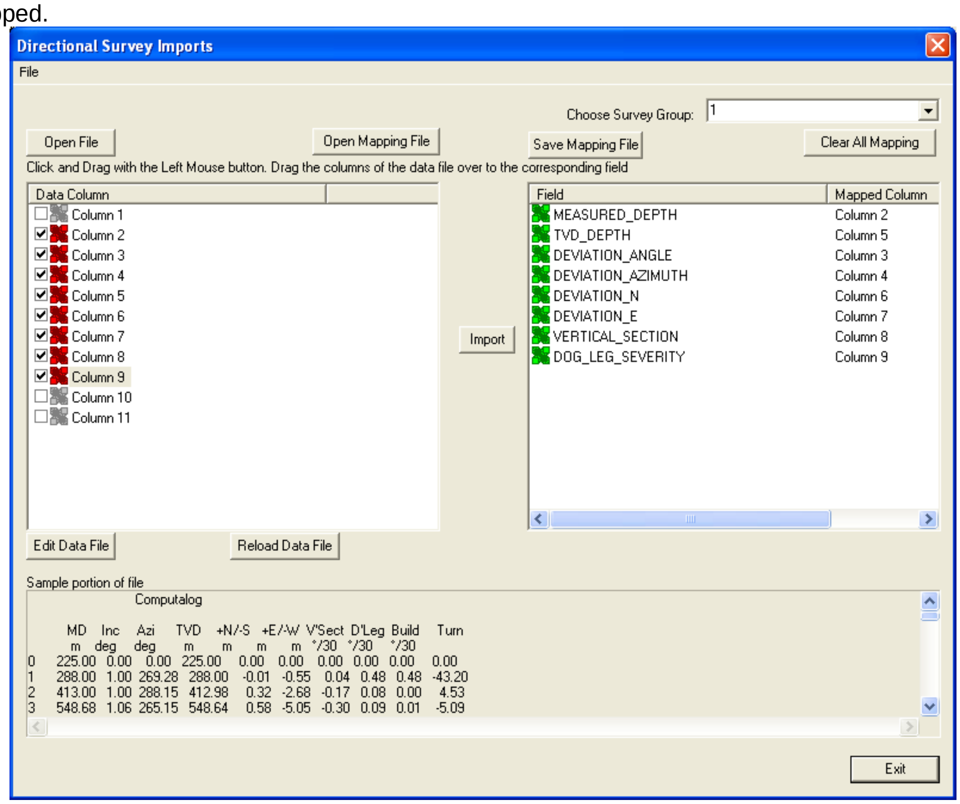
Importing / Mapping of Survey data.

The survey group must exist in the database to be able to import survey data.

1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

N.B. The user can **Right click** on the **Field** to remove the mapping.

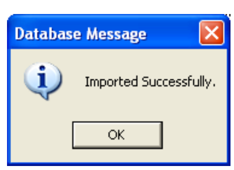
2. Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.



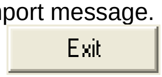
N.B. The minimum requirement for us to calculate Minimum Curvature is the measured depth, Inclination and Azimuth and Measured Depth and Inclination for Drift Angle calculations. The user can import all the fields if they are available and no survey calculations are necessary unless you wish to update the well path or TVD fields in other windows.

3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.

4. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.

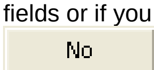


5. **Acknowledge** the Import message. **Click** on the 

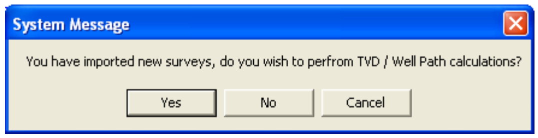
button and then click on the  to exit or **click** on the 

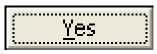
button to close the Window.

6. This will prompt the user with a System Message asking the user if they wish to calculate the TVD and Well Path Calculations. Click on the 

button if you need to update the well path or TVD fields or if you imported only the minimum fields and do not have any TVD on the import. Click on the 

button if you have all the information you require on the import.



If you **Clicked** on the 

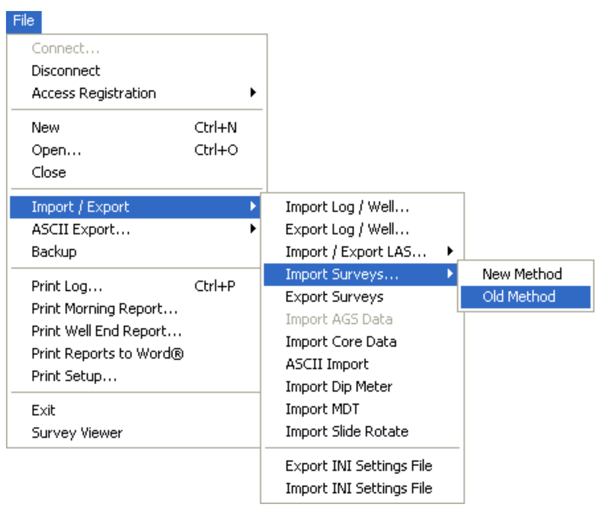
button move ahead to page 85.

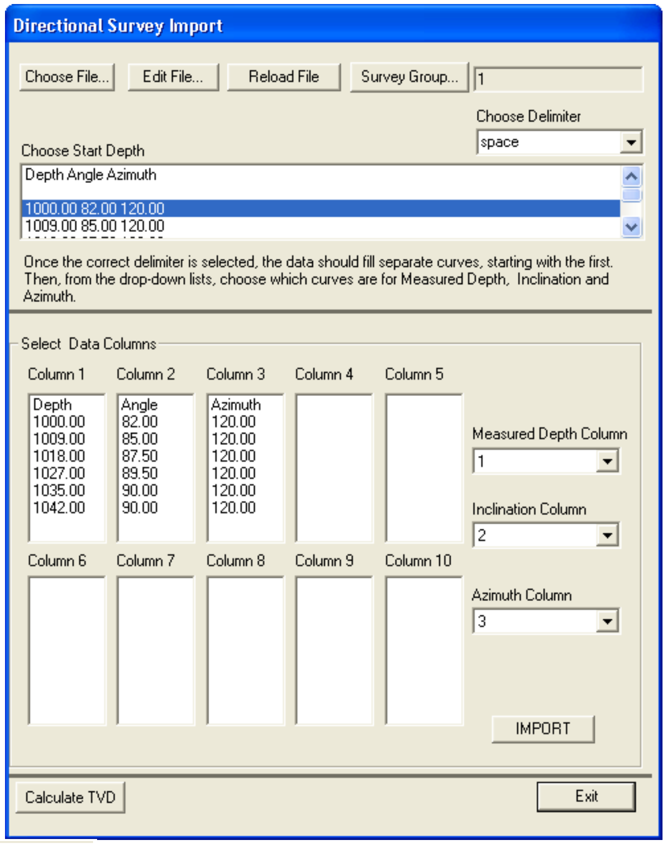
Import Surveys Old Method

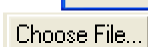
If the data has not been formatted correctly and the ASCII file has any non numeric characters such as Easting (E) or Northing (N) the user should utilize the old method of importing. This method is better because it only imports the measured depth, inclination and azimuth columns and does not read the rest of the file.

Importing Surveys

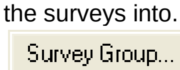
To access the **Directional Survey Import** window, click on **Import / Export** under **File** to activate the pop-out menu and then select Import Surveys to activate another pop out selection and select Old method. This will activate the Directional Survey Import window. **Method** or click on the  **Import Survey button** on the **Toolbar**.





1. **Click** on the 

button, and select the data file provided by the directional drillers.
2. The next step is to select which **Survey Group** you want to Import the surveys into. The Default is Group 1.

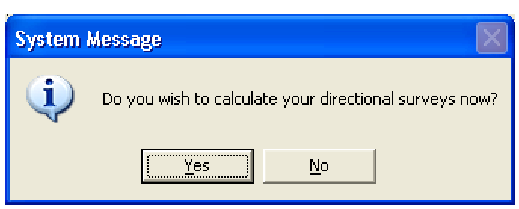
   If you wish to Import the surveys into a different group **click** on the 

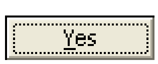
button and then select the Survey Group form the List provided.
3. The next step is to **select** the correct **delimiter** for your file. Select one from the right hand drop down box. When you have selected the correct delimiter for your file, the curves should fill the individual columns.
4. From the top window, **choose a start depth** by clicking the first line of data you wish to import.
5. Select the columns that represent the *measured depth, Inclination and azimuth* values from the drop down boxes on the right hand side of the columns.
6. **Click** on the 

button.

After a successful import, the directional surveys should contain the values of the measured depth, inclination and azimuth from the directional survey data file.

The next thing will be a System message asking the user

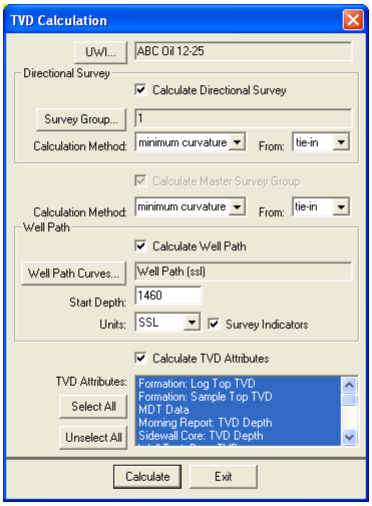


7. **Click** on the 

button only if you have the required fields filled in within the Directional Survey Report window. Otherwise, you will not be able to calculate the surveys.

TVD Calculations

The TVD Calculations window will perform either Minimum Curvature calculations if all the survey data has an azimuth or direction or can do Drift Angle calculations if the survey data only has a measured depth and an angle for both the Survey group imported into as well as the Master Survey group. This Master Survey group can consist of survey data from several groups of surveys that have been used throughout the drilling process. The Master Survey group must be chosen in the Directional Survey window. Also, this window we can update a Well path curve from the survey points in either TVD or SSL values starting at a desired measured depth. Also, if you would like to change or update any of the TVD fields scattered through the different report windows can also be done in this window.
If a Master Survey group is built this survey data is utilized to perform all the TVD and SSL views for a specific well. This would only be applicable if there are multiple survey groups for a well and they cover different portions of the wells profile.



Directional Survey Portion:

The User has the ability to have the program calculate the Directional Survey group, select which survey group they wish to calculate, which calculation method either minimum curvature or drift angle calculations and from either tie-in or kick off co-ordinates.

Procedure…

1. If the user wishes to calculate a Survey Group, activate the Check box  in this portion of the window.
2. If the default survey group is not correct, **click** on the  **button** and select the survey group you wish to calculate from the List.
3. **Select the Calculation method** from the drop box. (Minimum curvature must have an azimuth and will fill in all the fields in the Survey Points Window, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
4. **Select the From Tie-In or Kick-Off** co-ordinantes

The defaults are picked up from the User defined TVD Calculation portion of the '**Directional Surveys Report'**, found under the **Reports** menu selection. Kick Off is selected by default if not filled in. Remember that the data required for the **Kick Off** or **Tie In** reference is entered in the '**Directional Surveys Report'**, found under the **Reports** menu selection. Kick Off is selected by default.

Calculate Master Survey Portion:

The User has the ability to have the program calculate the Directional Surveys in the Master Survey group, which calculation method either minimum curvature or drift angle calculations and from either tie-in or kick off co-ordinates. The Master Survey Group can be compiled from points from different Survey Groups. The Master Survey group is built in the Directional Survey window. If there is only one survey group this procedure is not required. **The Master Survey group if built is then used to perform all TVD / SSL Calculations within the application.**

Procedure…

1. **Select the Calculation method** from the drop box. (Minimum curvature must have an azimuth and will fill in all the fields in the Survey Points Window, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
2. **Select the From Tie-In or Kick-Off** co-ordinates.

Well Path Portion:

The Well Path for lack of better terms will update any curve on your log with either TVD or SSL data and will start at any depth required. It basically plots a curve with respect to measured depth and the survey data's TVD calculations which can also be converted to SSL if a KB elevation has been entered into the Well Record located under the Edit menu selection.

Procedure…

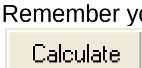
1. If the user wishes to calculate or update the Well path curve activate the Check box  in this portion of the window.
2. Select which curve you wish to populate with this data by **clicking** on the  **button** and selecting the curve from the existing curve in the database.
3. **Type in** the **Start depth** for which the curve will first appear on the log.
4. **Select** which units you would like this curve to be plotted or updated with from the Units selection box. TVD is the direct calculations from the survey points. SSL are converted with respect to the wells Kelly Bushing Elevation.

TVD Attributes Portion

Procedure…

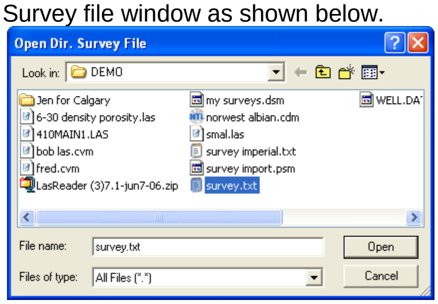
1. If the user wishes to calculate or update the specified TVD fields within the various windows throughout the Reports **activate** the Check box  in this portion of the window.

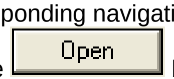
The program is only able to determine the TVD at any depth covered by the directional surveys. Power*Log and Power*Curve have several windows in which the measured depth and corresponding true vertical depth are asked for. If you have directional surveys over that interval, the program will calculate the exact TVD for you. If it is outside the range of your surveys, it will be left as a manual entry.

2. Select or click on which fields (highlight) you wish to calculate for or recalculate if you have changed the survey data. Remember you have the ability to select all or unselect all.
3. **Click** on the  **button**.

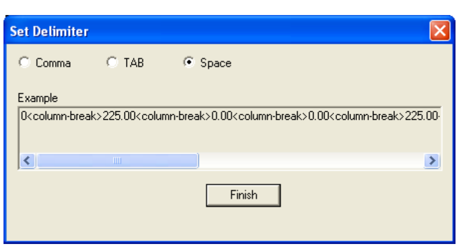
How to Import a Survey Data with an Existing mapping file.

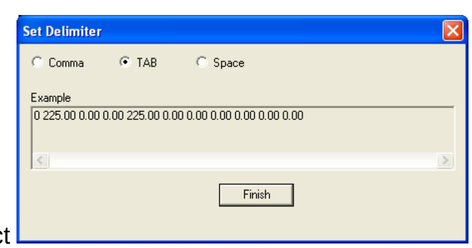
1. To access the Directional Survey Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Surveys** or click on the  **Import Survey button** on the **Toolbar**. This will activate the open Directional Survey file window as shown below.



2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the  **button**. This will activate the **Set delimiter** window as shown below.

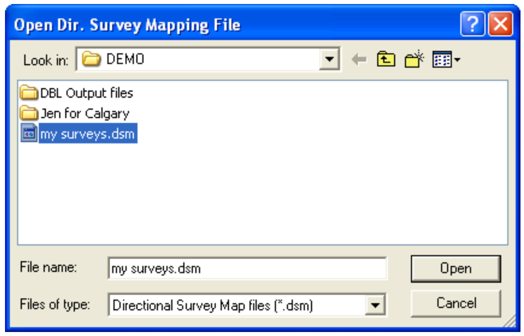
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Directional survey import window shown below.

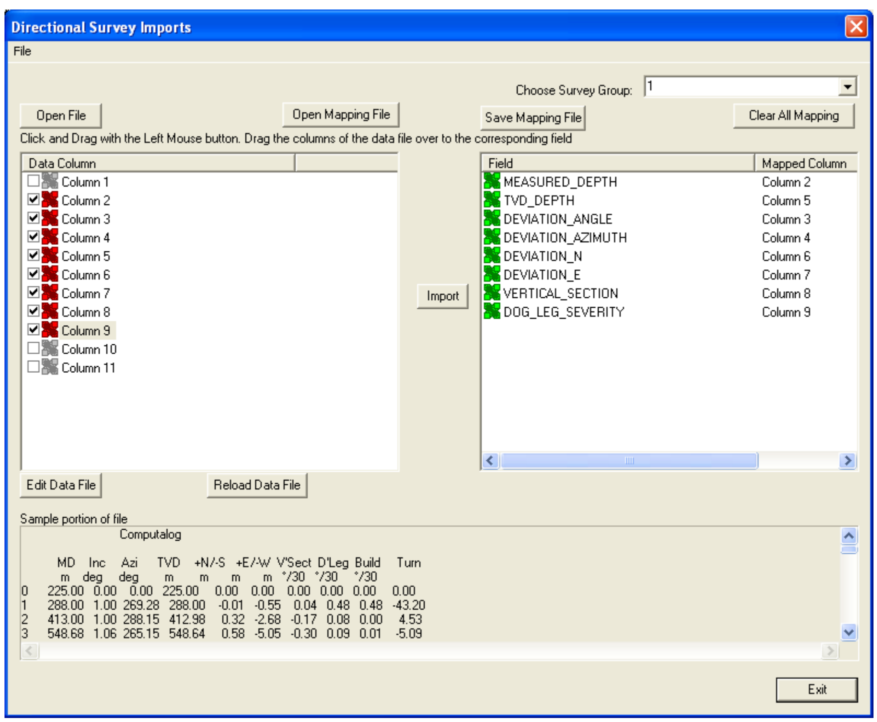
4. In the upper portion of the window **click** on the Open Mapping File **button**. This will activate an open file window.



5. Select the mapping file with the ***.dsm** saved from previous imports of similar survey data files to your directional survey table by highlighting the file and **clicking** on the Open **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

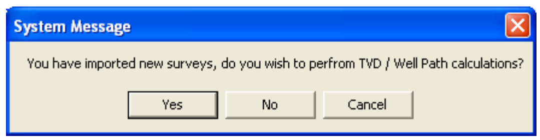
N.B. The user can **Right click** on the **Field** to remove the mapping.

6. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.



7. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.

8. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the  to exit or **click** on the Exit **button** to close the Window.
9. This will prompt the user with a System Message asking the user if they wish to calculate the TVD and Well Path Calculations. Click on the Yes button if you need to update the well path or TVD fields or if you imported only the minimum fields and do not have any TVD on the import. Click on the No button if you have all the information you require on the import.

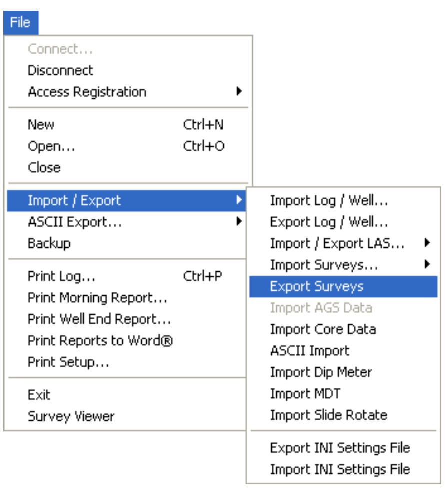


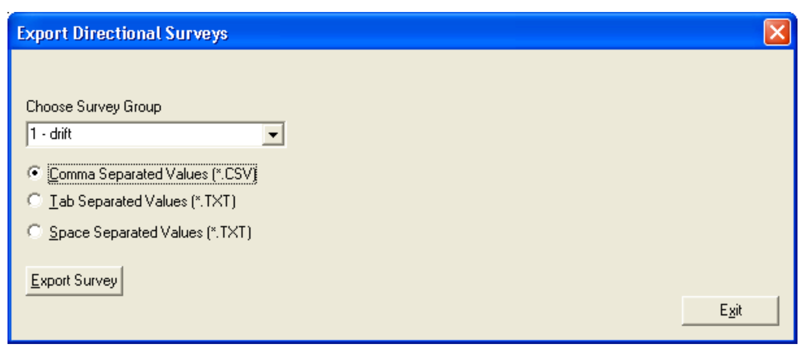
Export Surveys

This utility exports your survey data into 3 file formats which can then be used by other applications.

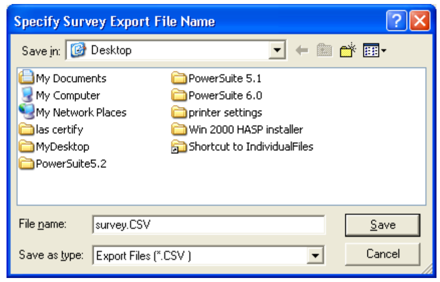
Exporting Surveys

To access the **Export Directional Surveys** window, click on **Import / Export** under **File** to activate the pop-out menu and then select Export Surveys. This will activate the Export Directional Surveys window.



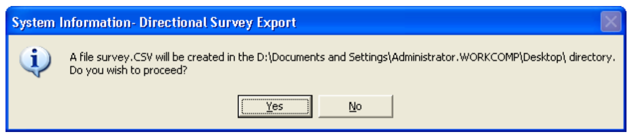


1. **Click** on the Choose Survey Group drop down arrow and select a survey group.
2. **Click** on the radio button next to the type of the file that you would like to create.
3. **Click** on the Export Survey **button.** This will activate a Specify Survey Export File Name window.



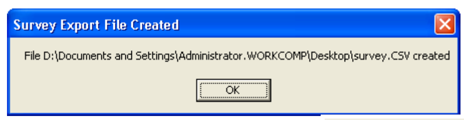
4. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the 

button. This will activate the System Information window asking you if you wish to proceed.

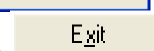


5. **Click** on the 

button. This will activate the **Survey Export File Created** window.



6. **Click** on the 

button and then **click** on the 

button to exit **Export Directional Surveys** window.

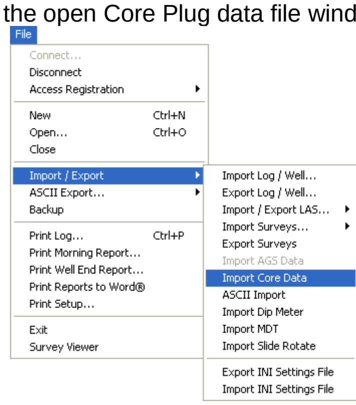
Import AGS (Only relative to Apple Core Data files that are Version 9.2D)

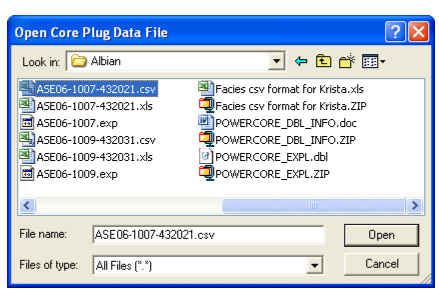
Import Core Plug Data

This method will allow the user to import ASCII or csv file formats into our database. We cannot import xls or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data.

How to import Core Plug data

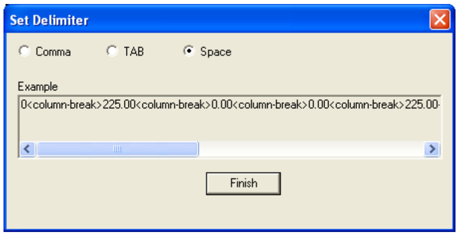
1. To access the Core Plug Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Core Data** or click on the  **Import Core Data button** on the **Toolbar**. This will activate the open Core Plug data file window as shown below.

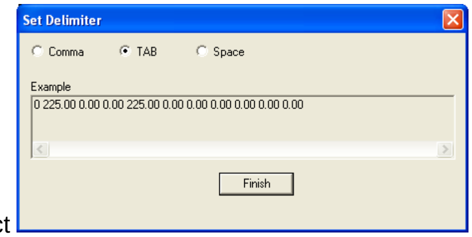




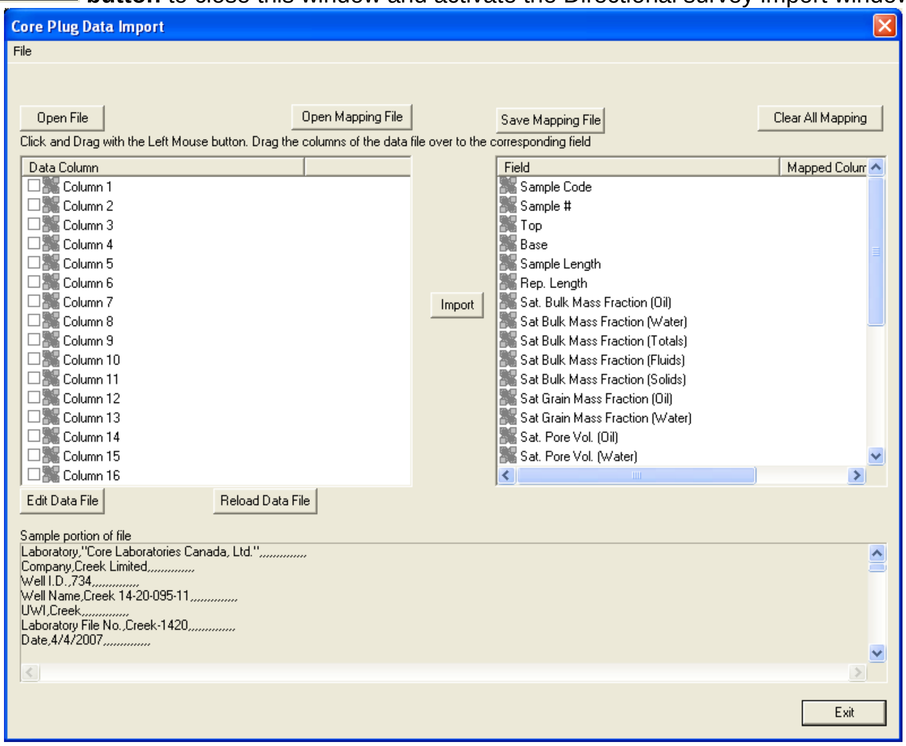
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** on the file name and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Directional survey import window.



Overview of the window.

The **left hand side** of the **Core Plug Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **Core Plug Data Import window** allows the user to see the data fields associated with the Core Plug Data Table supplied by Power*Suite.

Open File **Button** allows the user to open another Core Plug data file after the Import window has been opened.

Open Mapping File **Button** allows the user to utilize the mapping file saved from above to remap data columns in the survey file to database fields in the survey point table in the database**.**

Save Mapping File **Button** allows the user to save the mapping between data columns in the survey file to database fields in the Core Plug table in the database. Once the initial mapping has been done and saved, the user can utilize

this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the survey point table again and again if you do not want to.

Clear All Mapping **Button** allows the user to undo all the mapping from data columns in the survey file to database fields in the survey point table that was done either by dragging or by utilizing the mapping file.

Edit Data File **Button** allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.

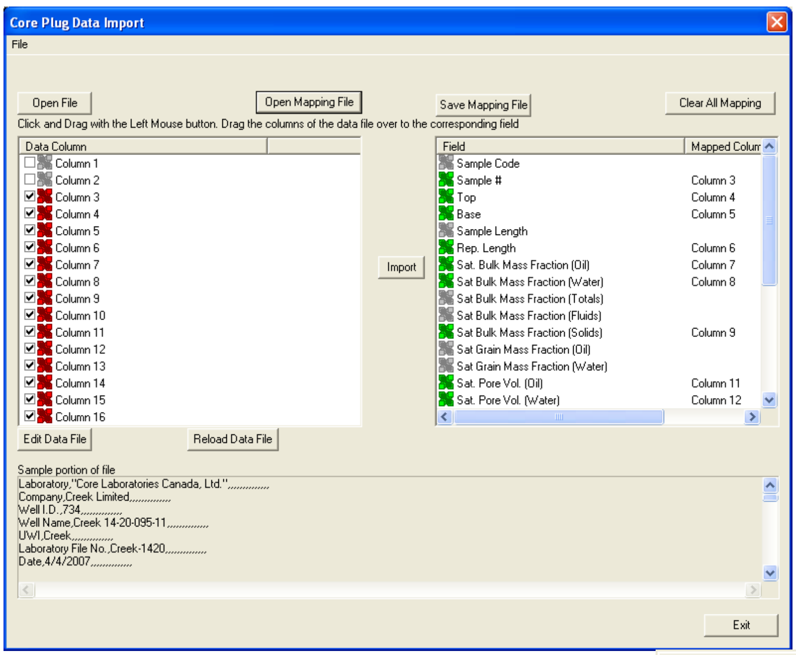
Reload Data File **Button** reloads the data into the sample portion of the file window.

Importing / Mapping of Core Plug data.

1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

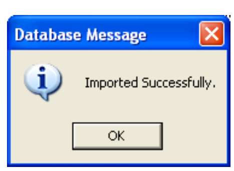
N.B. The user can **Right click** on the **Field** to remove the mapping.

2. Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.



3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.

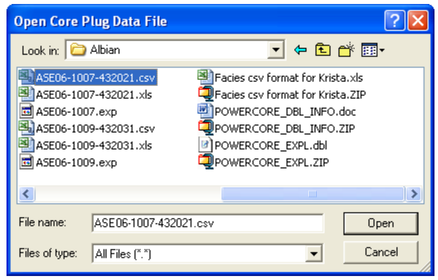
4. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.



5. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the to exit or **click** on the Exit **button** to close the Window.

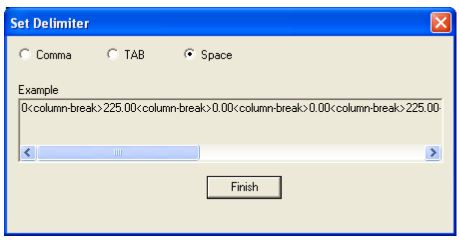
How to Import Core Plug Data with an Existing mapping file.

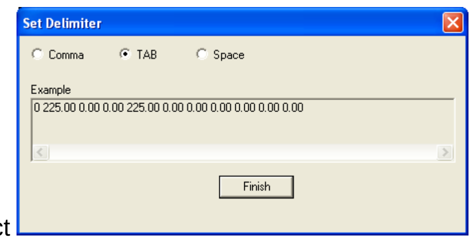
1. To access the Core Plug Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Core Data** or click on the **Import Core Data button** on the **Toolbar**. This will activate the open Core Plug data file window as shown below.



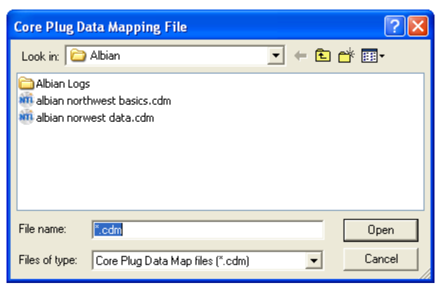
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** on the file name and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

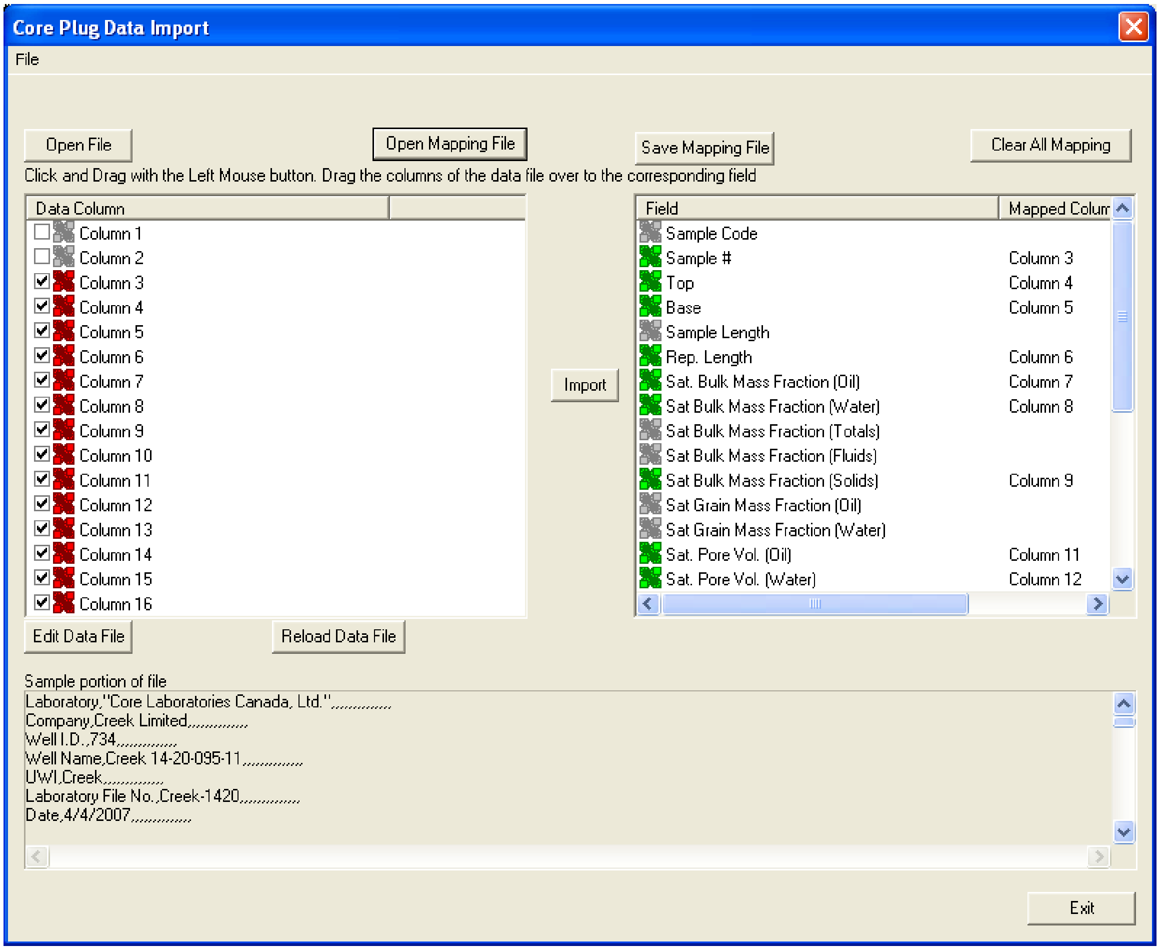
3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Directional survey import window shown on the next page.
4. In the upper portion of the window **click** on the Open Mapping File **button**. This will activate an open file window.



5. Select the mapping file with the ***.cdm** saved from previous imports of similar core data files to your core plug table by highlighting the file and **clicking** on the Open **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

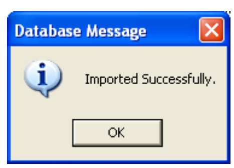
N.B. The user can **Right click** on the **Field** to remove the mapping.

6. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.

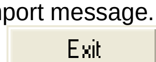


10. **Click** on the 

button. After the data has been imported you will be prompted with a system message.



11. **Acknowledge** the Import message. **Click** on the 

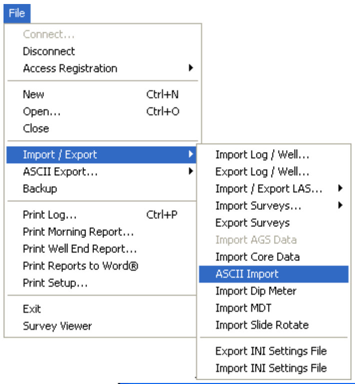
button and then click on the  to exit or **click** on the 

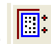
button to close the Window.

ASCII Import - How to Import an ASCII data file

This method will allow you to import one or more curves into the database and your log. If the curve already exists in the database and is shown on a curve layer then the curve and its' data will appear automatically on the log. If the curve does not exist the user must create a layer for that curve to be shown or replace an existing curve on an existing layer with a new curve.

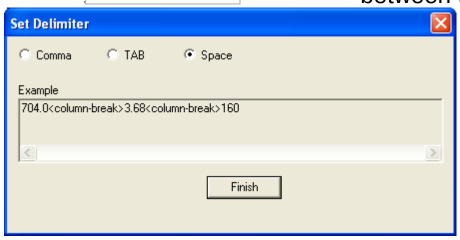
This method will allow you to import one or more curves into the database. However, right click method may be easier if you only have one curve to import. Refer to page 473
Also refer to Right Click ASCII Import Method.

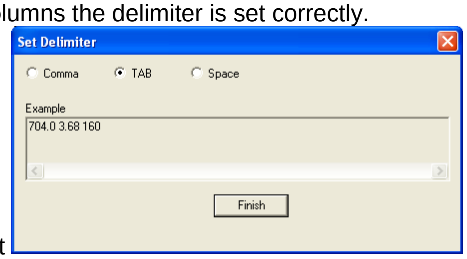


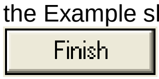
1. **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **ASCII Import** from the pop out-menu or simply **click** on the  **ASCII Import button**, on the **Toolbar**, to activate the **ASCII Import** window.

2. This will then activate the Open window which allows the user to select the ASCII file they wish to import the curve data from**.** Find the file and directory and highlight the file by **clicking** on it **once** and then **click** on the 

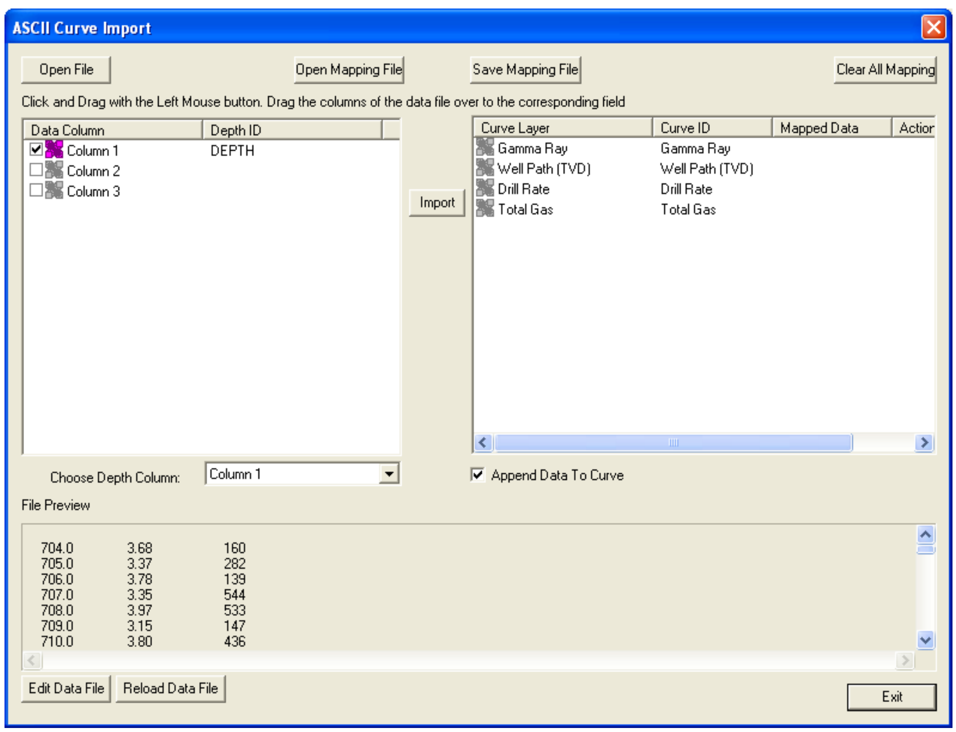
button. This will prompt you with a Set delimiter window as shown below. If you see <column break> between the data columns the delimiter is set correctly.

Correct 

Not correct 

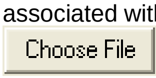
3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the 

button to close this window and activate the ASCII Import window shown below.



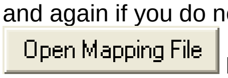
Overview of window

The **left hand side** of the **ASCII Curve Import window** allows the user to see the ASCII file data columns. The first data column has been defaulted to the depth column and has been given a purple color.
The **right hand side** of the **ASCII Curve Import window** allows the user to see their log and the curve layers associated with the log that is open and active at the time the ASCII Curve Import window was invoked.



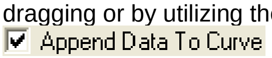
Button allows the user to open another ASCII file after the ASCII Curve Import window has been opened.

Button allows the user to save the mapping between curves and layers when it has been done so that if you have to use a similar ASCII file and/or a similar log format in the future. This enables the user to utilize the mapping that was done for the original so you do not have to repeat the clicking of dragging of curves to layers again and again if you do not want to.



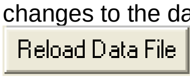
Button allows the user to utilize the mapping file saved from above to remap the curves to layers.

Button allows the user to undo all the mapping from curves to layers that was done either by dragging or by utilizing the mapping file.

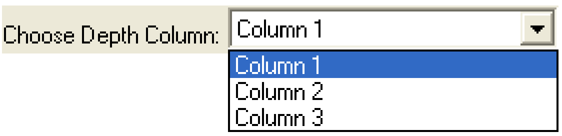


Check box will default the import to append the data. So it will check to see if the data exists and then will replace or append the data. If this is unchecked then the default will be replace which will delete the entire curve and replace the curve with the ASCII data that will be imported.

Button allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.



Button reloads the data into the sample portion of the file window.



Drop box allows the user to determine which column is the depth column in the data file. When it is chosen the color of the curve will change to purple.

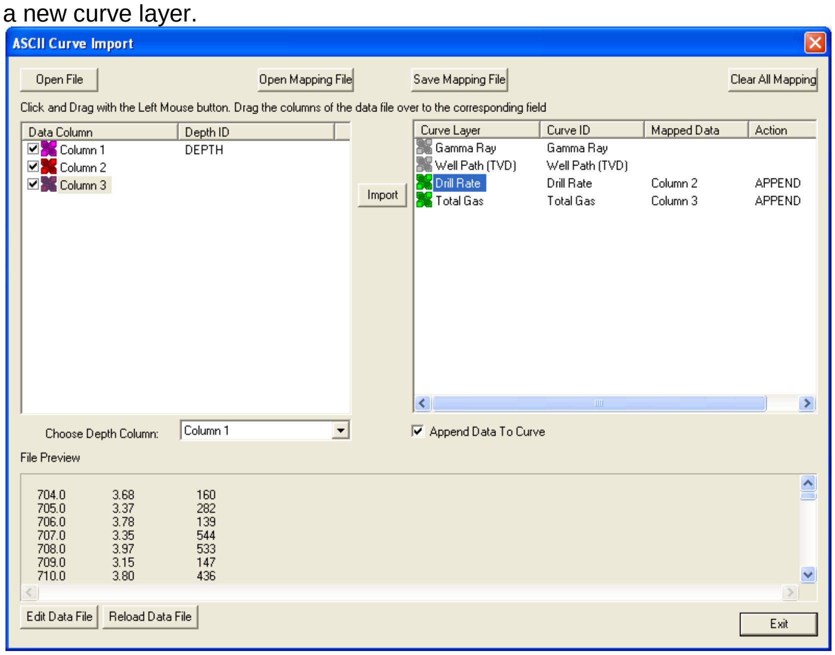
Importing / Mapping of ASCII Curve data.

The log portion of the window must have a log open to directly map or import a curve to a particular layer. The ASCII file must also be open on the left side of the window to view a list of curves to import.

1. On the left side of the window **Click and drag** the **data column** you wish to import to the **curve layer** on the right side and release it when the layer becomes highlighted.

N.B. The user can **Right click** on the **Curve Layer ID** to remove the mapping or switch the action from append to replace. Note the legend of the mapping techniques.

2. **Repeat the Clicking and Dragging of curves to curve layers until all have been mapped**. The user can also bring over new curves to the well without having a layer to show the curves on. You would then have to associate that curve to a new layer at a later date. This would be done through the log configuration builder on adding a new curve layer.



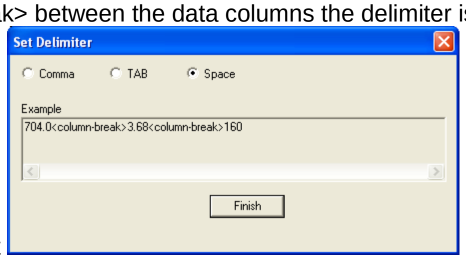
3. The user can save this mapping procedure at this time by clicking on the Save Mapping File button and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.
4. **Click** on the Import **button**. If done successfully you will be prompted with a System Message indicating Import done successfully as shown below.

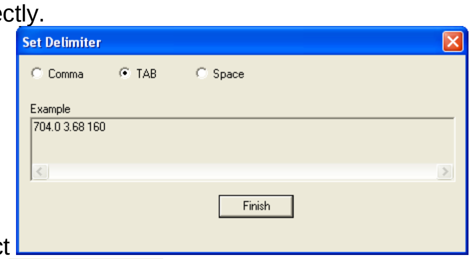
5. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the to exit or **click** on the Exit **button** to close the ASCII Curve Import Window.

Importing ASCII Curve data with an Existing mapping file.

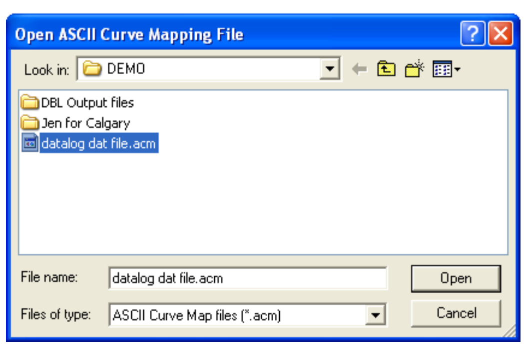
The log /well must be open for you to import ASCII Curve data into the well.

1. **Click** on the **File** pull down menu selection and **click** on **Import / Export** and then **click** on **ASCII Import** from the pop out-menu or simply **click** on the **ASCII Import button**, on the **Toolbar**, to activate the **ASCII Import** window.
2. This will then activate the Open window which allows the user to select the ASCII file they wish to import the curve data from**.** Find the file and directory and highlight the file by **clicking** on it **once** and then **click** on the Open **button**. This will prompt you with a Set delimiter window as shown below. If you see <column break> between the data columns the delimiter is set correctly.

Correct 

Not correct 

3. **Click on the correct delimiter radio button**. **Click** on the Finish **button**. If your log is open at the time you will see something similar to the window shown below.
4. **Click** on the Open Mapping File **button** This will activate a open ASCII Curve Mapping file dialogue window. Select the correct or previously saved ***. acm** file saved from previous imports of similar data to similar logs by highlighting the file and **clicking** on the Open **button** or double clicking on the file name.

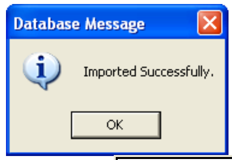


N.B. The user can **Right click** on the **Curve Layer ID** to remove the mapping or switch the action from append to replace. Note the legend of the mapping techniques being performed.

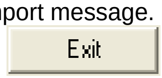
5. The user can map more curves on the left side of the window **by Clicking and dragging** the **curve** you wish to import to the **curve layer** on the right side and release it when the layer becomes highlighted.

6. **Click** on the 

button. If done successfully you will be prompted with a System Message indicating Import done successfully as shown below.



7. **Acknowledge** the Import message. **Click** on the 

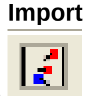
button and then click on the  to exit or **click** on the 

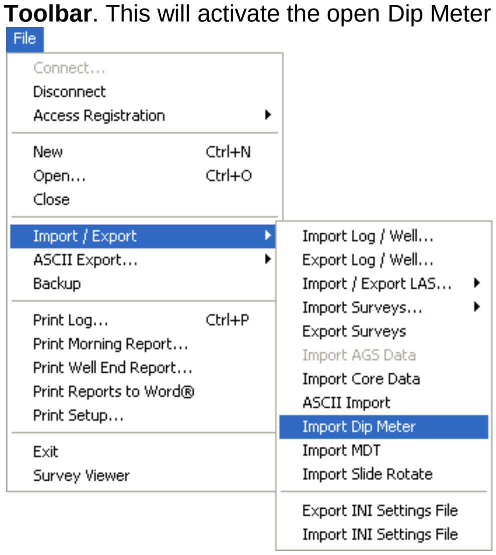
button to close the ASCII Curve Import Window.

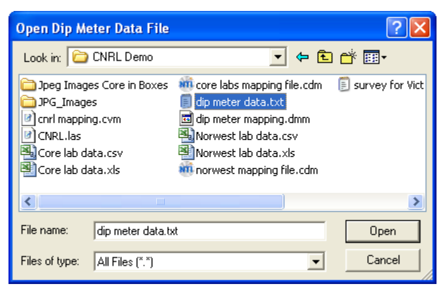
Import Dip Meter Data

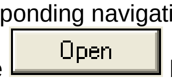
This method will allow the user to import ASCII, space, comma or tab delimited file formats into our database. We cannot import EXCEL or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data.

Importing Dip Meter Data

1. To access the Dip Meter Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Dip Meter** or click on the  **Import Dip Meter data button** on the **Import Toolbar**. This will activate the open Dip Meter Data file window as shown below.

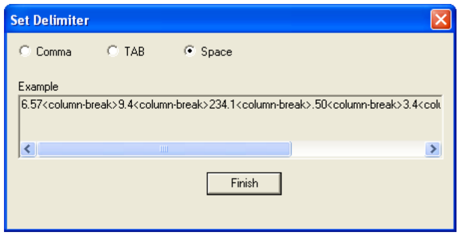


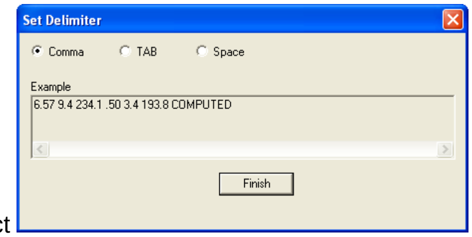


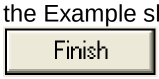
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the 

button. This will activate the **Set delimiter** window as shown below.

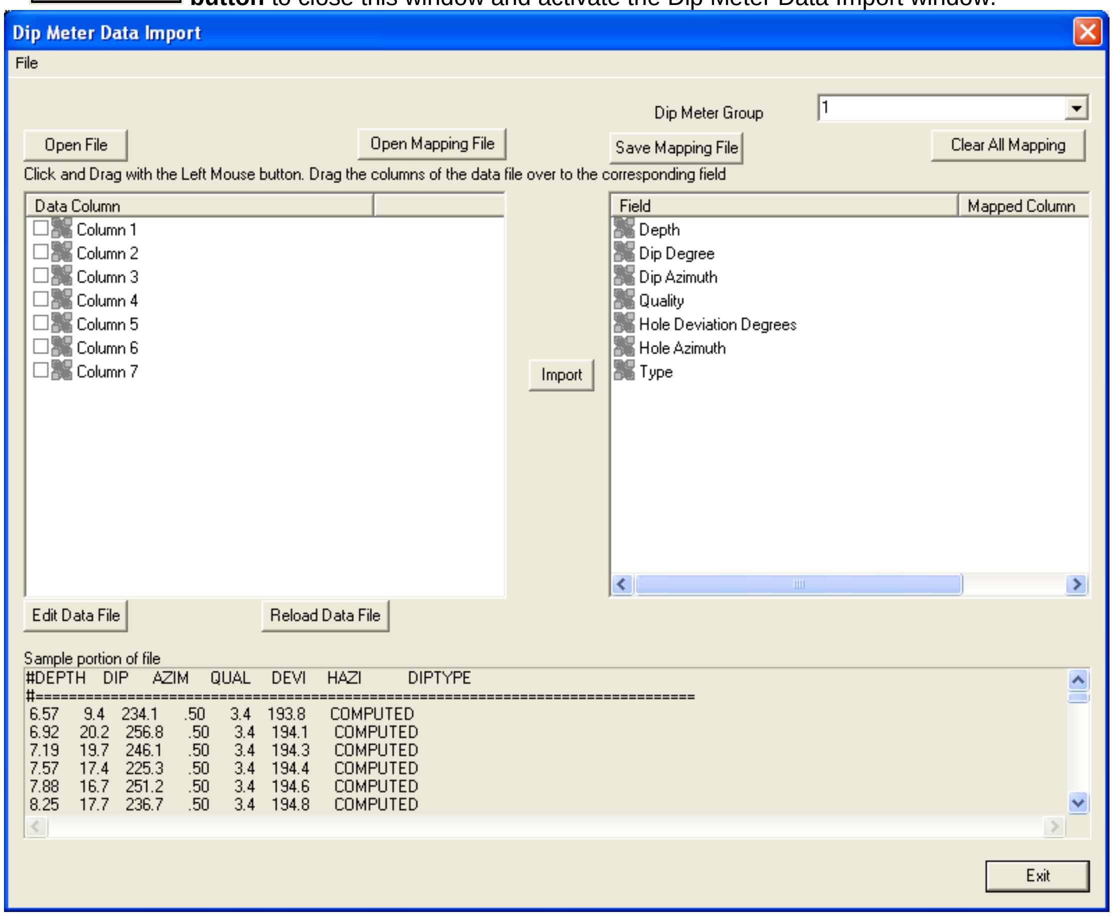
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

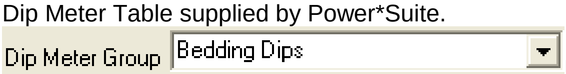
3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the 

button to close this window and activate the Dip Meter Data Import window.



Overview of the window.

The **left hand side** of the **Dip Meter Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **Dip Meter Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.



Drop box allows the user to import the dip data into unique dip meter groups that have been made in the program.

Button allows the user to open another Dip meter file after the Import window has been opened.

Button allows the user to utilize the mapping file saved from above to remap data columns in the dip meter file to database fields in the dip meter table in the database**.**

Save Mapping File **Button** allows the user to save the mapping between data columns in the Dip meter survey file to database fields in the Dip meter table in the database. Once the initial mapping has been done and saved, the user can utilize this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the dip meter table again and again if you do not want to.

Clear All Mapping **Button** allows the user to undo all the mapping from data columns in the dip meter file to database fields in the dip meter table that was done either by dragging or by utilizing the mapping file.

Edit Data File **Button** allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.

Reload Data File **Button** reloads the data into the sample portion of the file window.

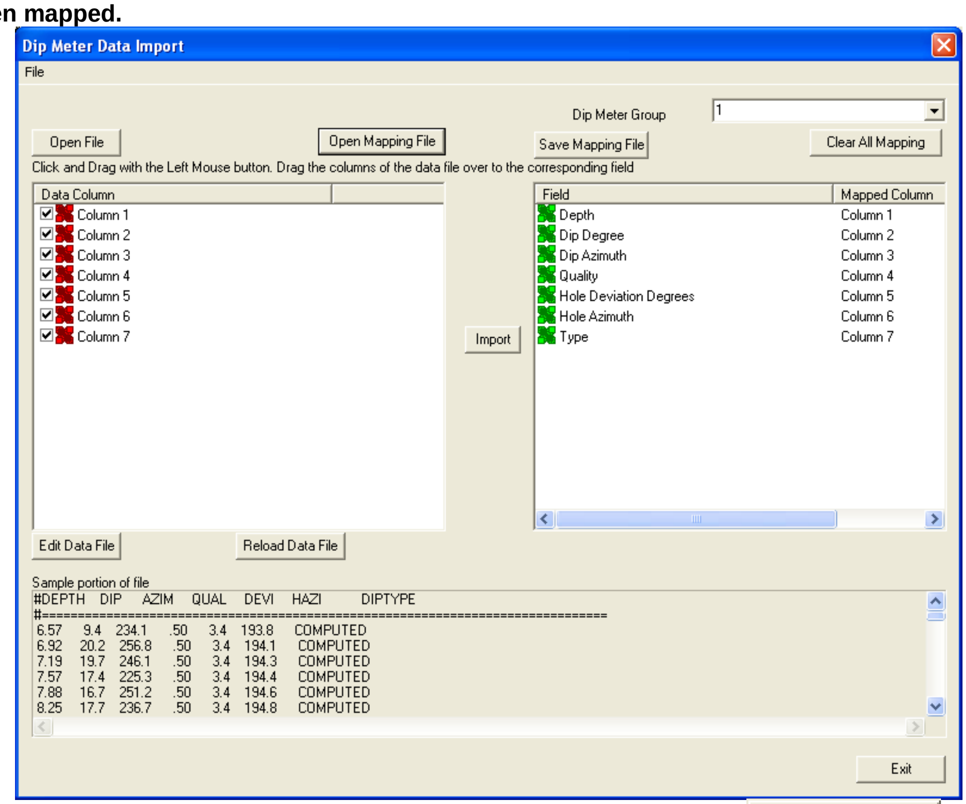
Importing / Mapping of Dip Meter data.

A Dip Meter Layer should already have been added through the Log configuration builder so that a Dip Meter group exists in the database to be able to import Dip Meter data.

1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

N.B. The user can **Right click** on the **Field** to remove the mapping.

2. **Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.**



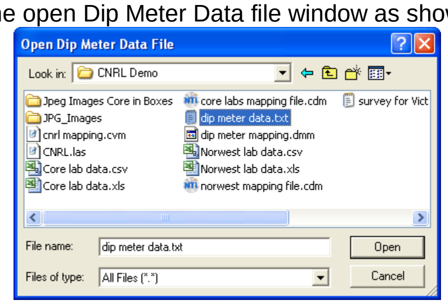
3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.

4. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.

5. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the to exit or **click** on the Exit **button** to close the Window.

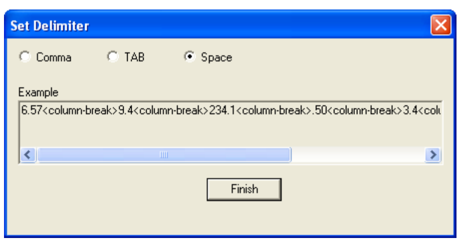
How to Import Dip Meter Data with an Existing mapping file.

1. To access the Dip Meter Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Dip Meter** or click on the **Import Dip Meter button** on the **Import Toolbar**. This will activate the open Dip Meter Data file window as shown below.

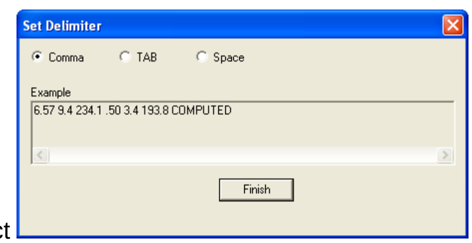


2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.



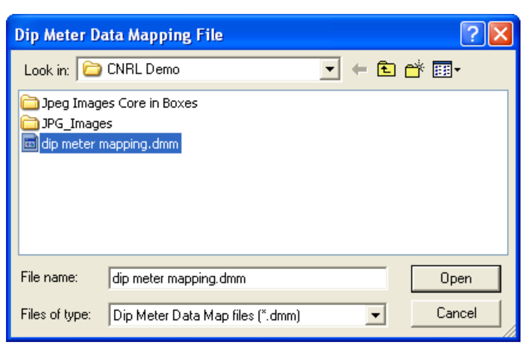
Correct



Not Correct

3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Dip Meter Data Import window shown on the next page.

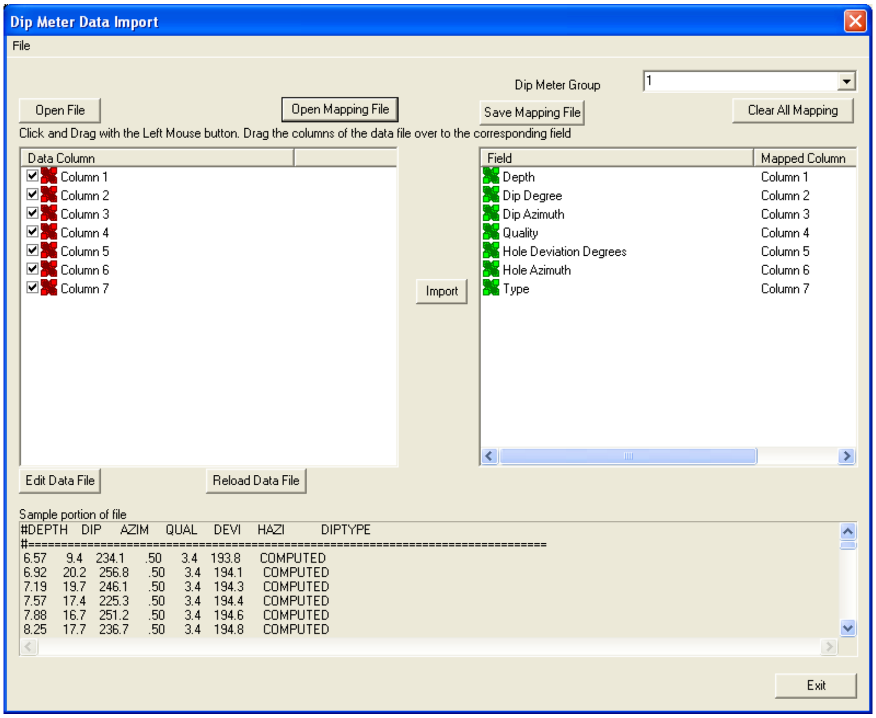
4. In the upper portion of the window **click** on the Open Mapping File **button**. This will activate an open file window.



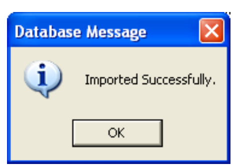
5. Select the mapping file with the ***.dmm** saved from previous imports of similar dip meter data files to your dip meter table by highlighting the file and **clicking** on the Open **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

N.B. The user can **Right click** on the **Field** to remove the mapping.

6. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.



7. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.

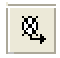


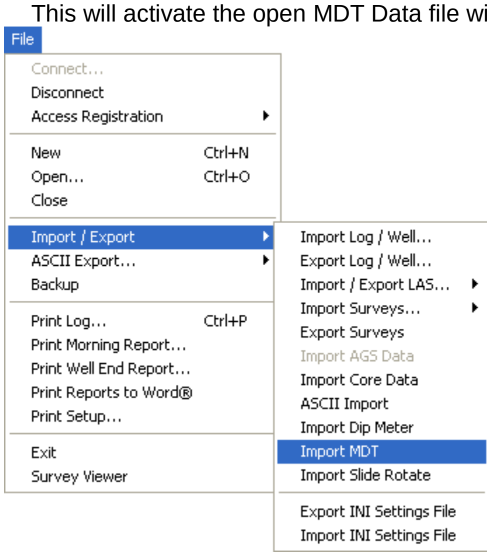
8. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the X to exit or **click** on the Exit **button** to close the Window.

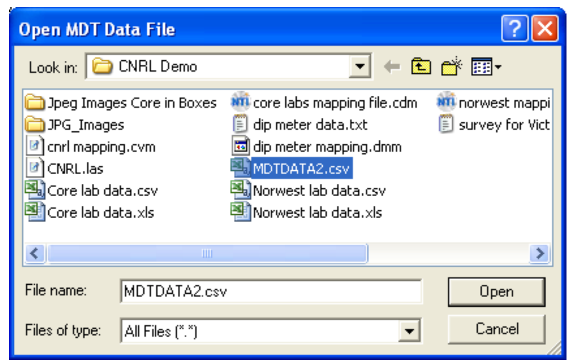
Import Modular Dynamic Tester (MDT) Data

This method will allow the user to import ASCII, space, comma or tab delimited file formats into our database. We cannot import EXCEL or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data.

Importing MDT Data

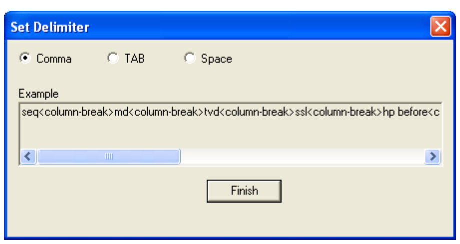
1. To access the MDT Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import MDT** or click on the  **Import Dip Meter data button** on the **Import Toolbar**. This will activate the open MDT Data file window as shown below.

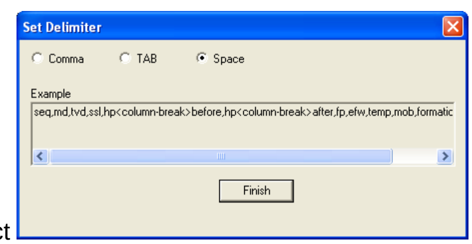


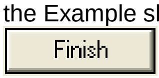


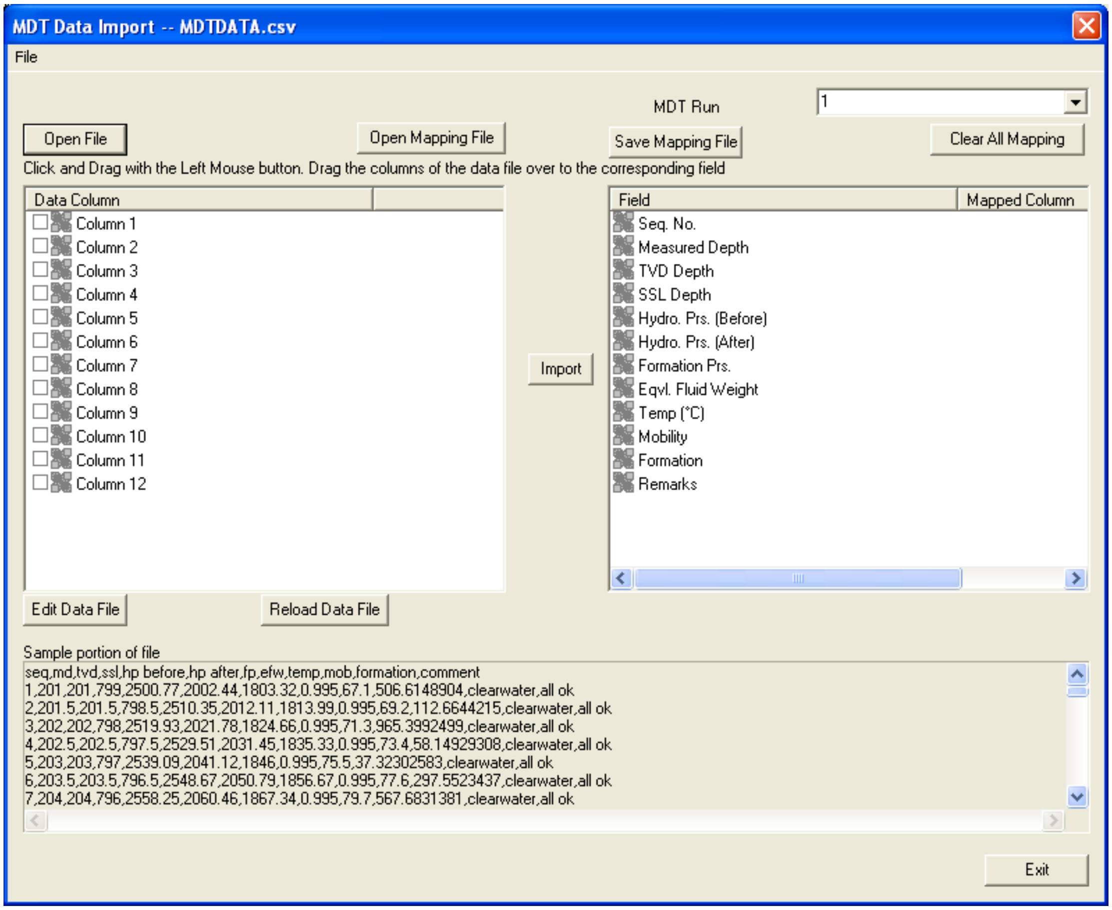
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the  **button**. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the  **button** to close this window and activate the MDT Data Import window shown on the next page.



Overview of the window.

The **left hand side** of the **MDT Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **MDT Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.

MDT Run [1] Drop box allows the user to import the dip data into unique MDT groups that have been made in the program.

Open File **Button** allows the user to open another MDT data file after the Import window has been opened.

Open Mapping File **Button** allows the user to utilize the mapping file saved from above to remap data columns in the MDT data file to database fields in the MDT table in the database**.**

Save Mapping File **Button** allows the user to save the mapping between data columns in the MDT data file to database fields in the MDT table in the database. Once the initial mapping has been done and saved, the user can utilize this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the dip meter table again and again if you do not want to.

Clear All Mapping **Button** allows the user to undo all the mapping from data columns in the dip meter file to database fields in the MDT table that was done either by dragging or by utilizing the mapping file.

Edit Data File **Button** allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.

Reload Data File **Button** reloads the data into the sample portion of the file window.

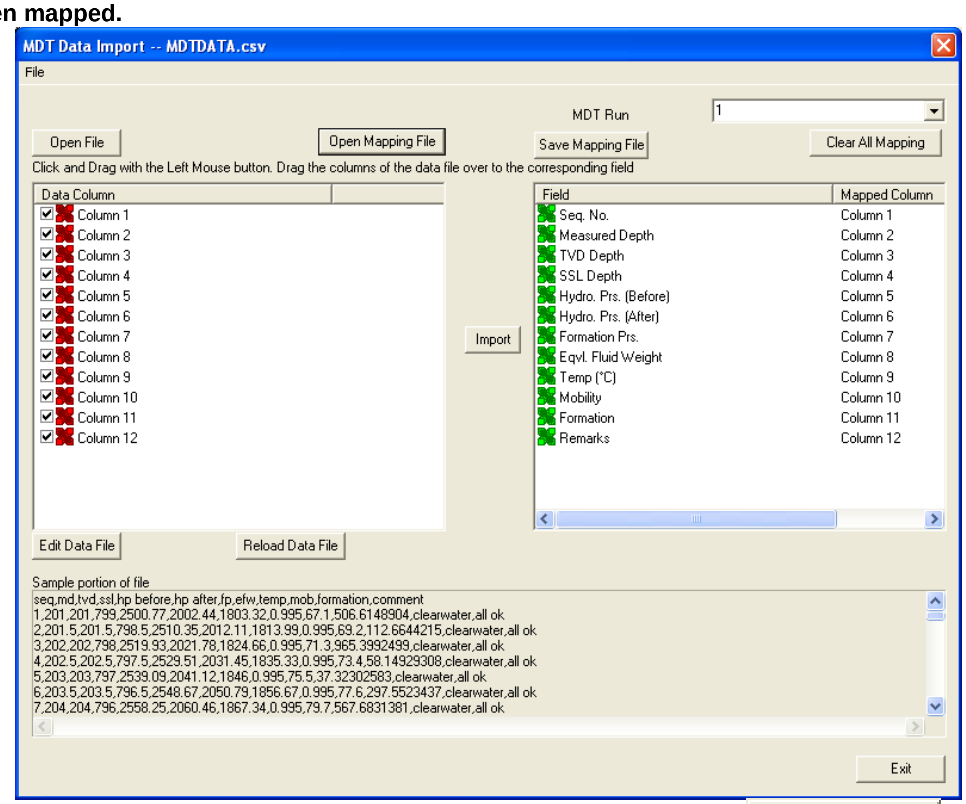
Importing / Mapping of MDT data.

An MDT Layer should already have been added through the Log configuration builder so that an MDT group exists in the database to be able to import MDT data.

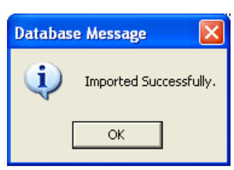
1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

N.B. The user can **Right click** on the **Field** to remove the mapping.

2. **Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.**



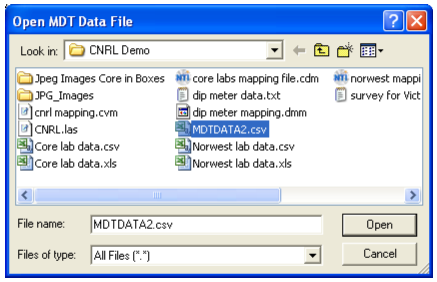
3. The user can save this mapping procedure at this time by **clicking** on the **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.
4. **Click** on the **button**. After the data has been imported you will be prompted with a system message.



5. **Acknowledge** the Import message. **Click** on the **button** and then click on the to exit or **click** on the **button** to close the Window.

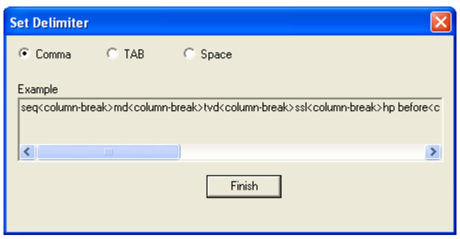
How to Import MDT Data with an Existing mapping file.

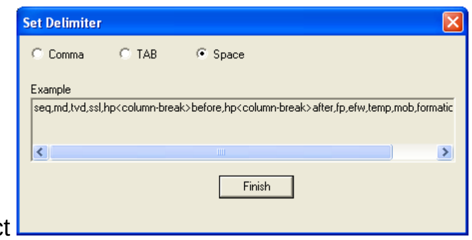
1. To access the MDT Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import MDT** or click on the **Import MDT button** on the **Import Toolbar**. This will activate the Open MDT Data file window as shown below.



2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

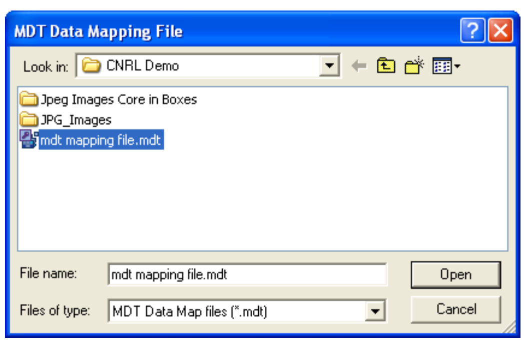
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the MDT Data Import window shown on the next page.

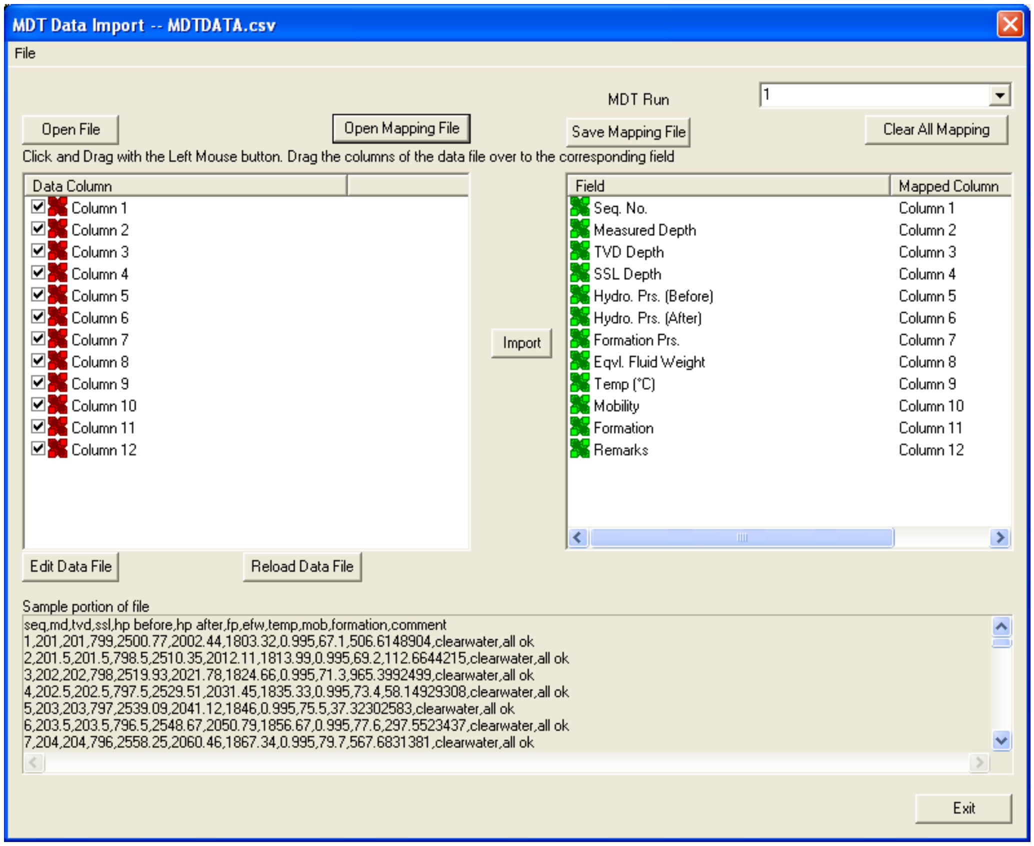
4. In the upper portion of the window **click** on the Open Mapping File **button**. This will activate an open file window.



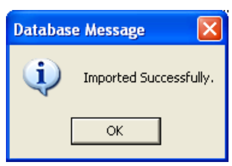
5. Select the mapping file with the ***.mdt** saved from previous imports of similar MDT data files to your dip meter table by highlighting the file and **clicking** on the Open **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

N.B. The user can **Right click** on the **Field** to remove the mapping.

6. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.



6. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.



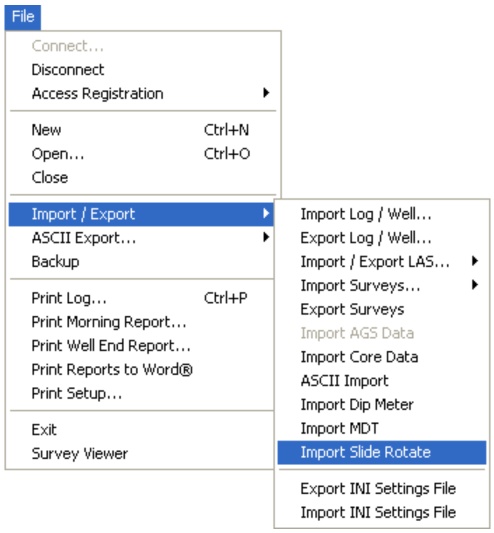
7. **Acknowledge** the Import message. **Click** on the OK **button** and then **click** on the [X] to exit or **click** on the Exit **button** to close the Window.

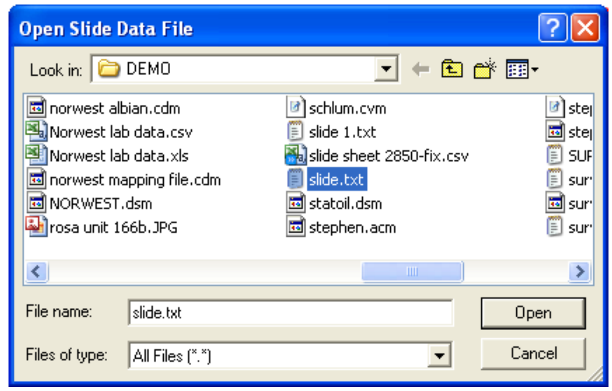
Slide Data Import

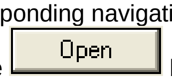
This method will allow the user to import ASCII, space, comma or tab delimited file formats into our database. We cannot import EXCEL or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data.

Importing Slide Data

1. To access the Slide Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Slide Rotate** or click on the **Import Slide Rotate data button** on the **Import Toolbar**. This will activate the open Slide Data file window as shown below.

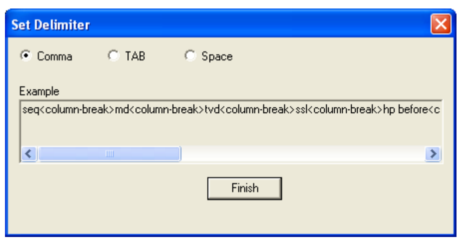


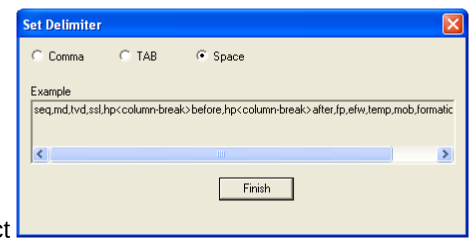


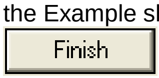
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the 

button. This will activate the **Set delimiter** window as shown below.

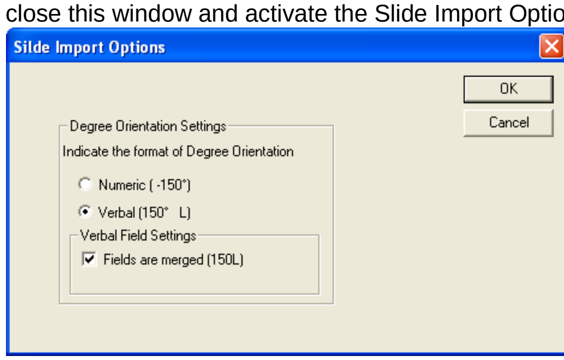
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

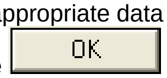
Correct 

Not Correct 

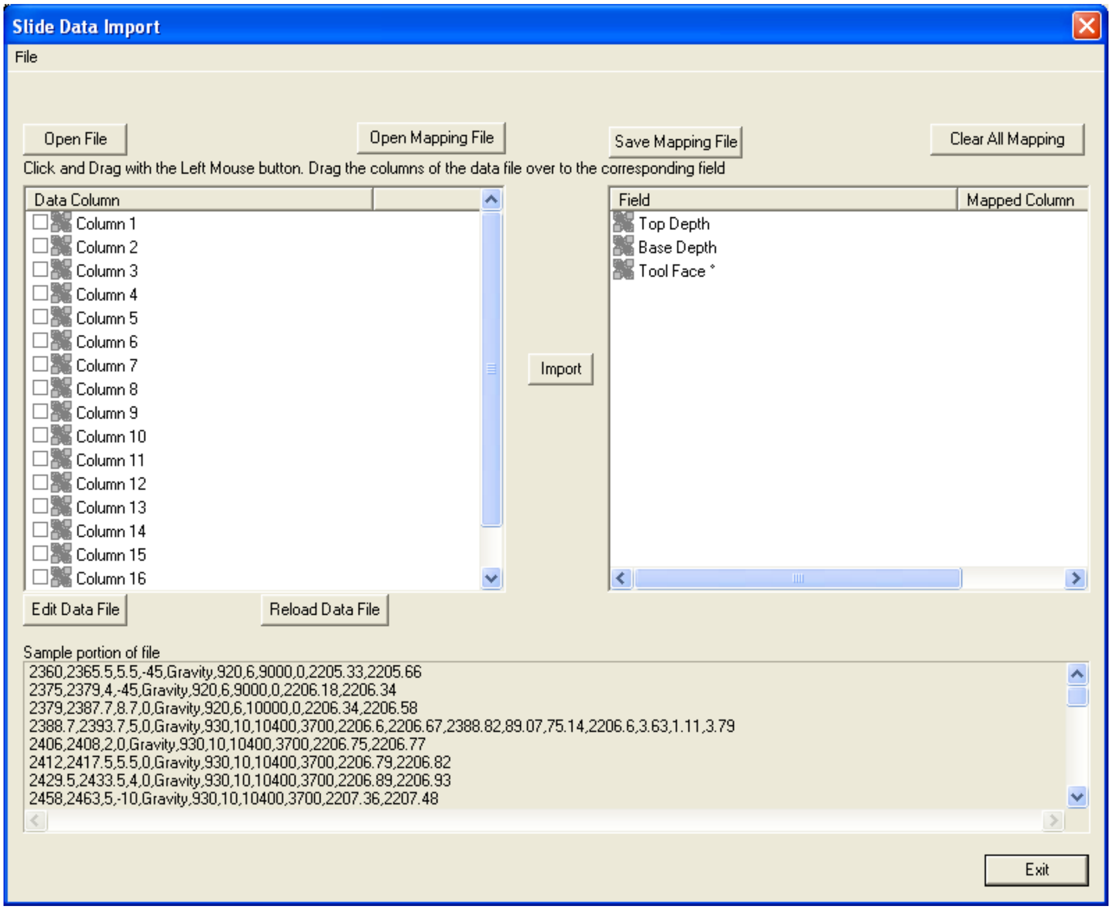
3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the 

button to close this window and activate the Slide Import Options window shown below.



4. The user must have some knowledge of the slide data as far as the Toolface orientation is concerned. Select the appropriate data format for the Toolface data by **click** on the appropriate **Radio Button** and then **click** on the 

button. This will activate the Slide Rotate Data Import window shown below.



Overview of the window.

The **left hand side** of the **Slide Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **Slide Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.

Open File **Button** allows the user to open another Slide data file after the Import window has been opened.

Open Mapping File **Button** allows the user to utilize the mapping file saved from above to remap data columns in the Slide data file to database fields in the Slide table in the database**.**

Save Mapping File **Button** allows the user to save the mapping between data columns in the Slide data file to database fields in the Slide table in the database. Once the initial mapping has been done and saved, the user can utilize this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the dip meter table again and again if you do not want to.

Clear All Mapping **Button** allows the user to undo all the mapping from data columns in the slide data file to database fields in the Slide table that was done either by dragging or by utilizing the mapping file.

Edit Data File **Button** allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.

Reload Data File **Button** reloads the data into the sample portion of the file window.

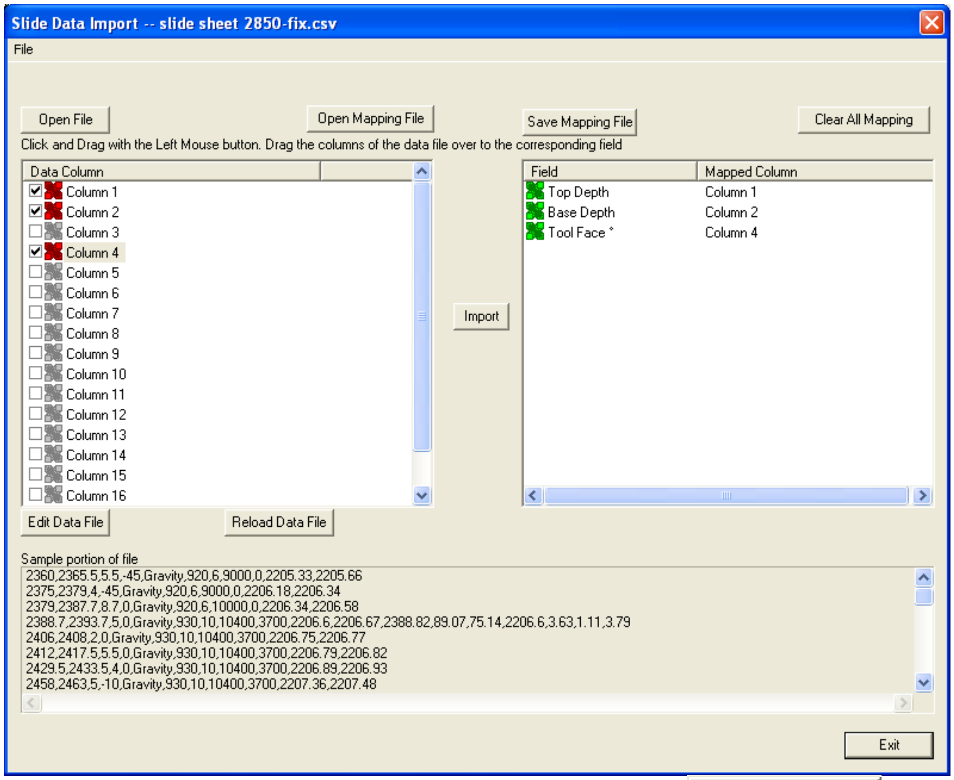
Importing / Mapping of Slide data.

A Slide / Rotate Layer should already have been added through the Log configuration builder so that the user can see their imported Slide data.

1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

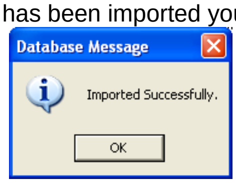
N.B. The user can **Right click** on the **Field** to remove the mapping.

2. Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.



3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.

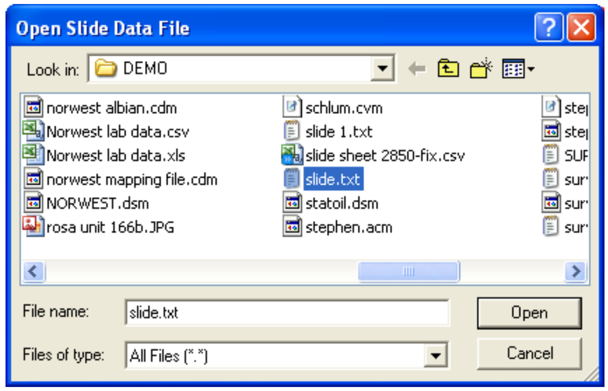
4. **Click** on the Import **button**. After the data has been imported you will be prompted with a system message.



5. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the to exit or **click** on the Exit **button** to close the Window.

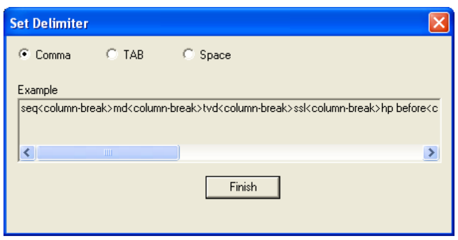
How to Import Slide Data with an Existing mapping file.

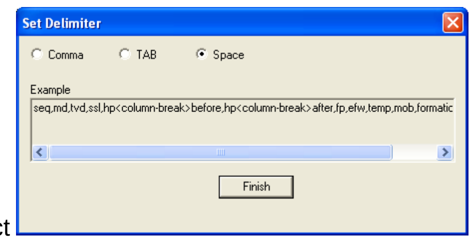
1. To access the Slide Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Slide Rotate** or **click** on the **Import Slide Rotate data button** on the **Import Toolbar**. This will activate the Open Slide Data file window as shown below.



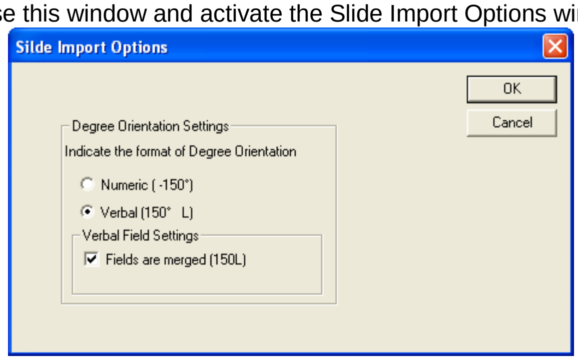
2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

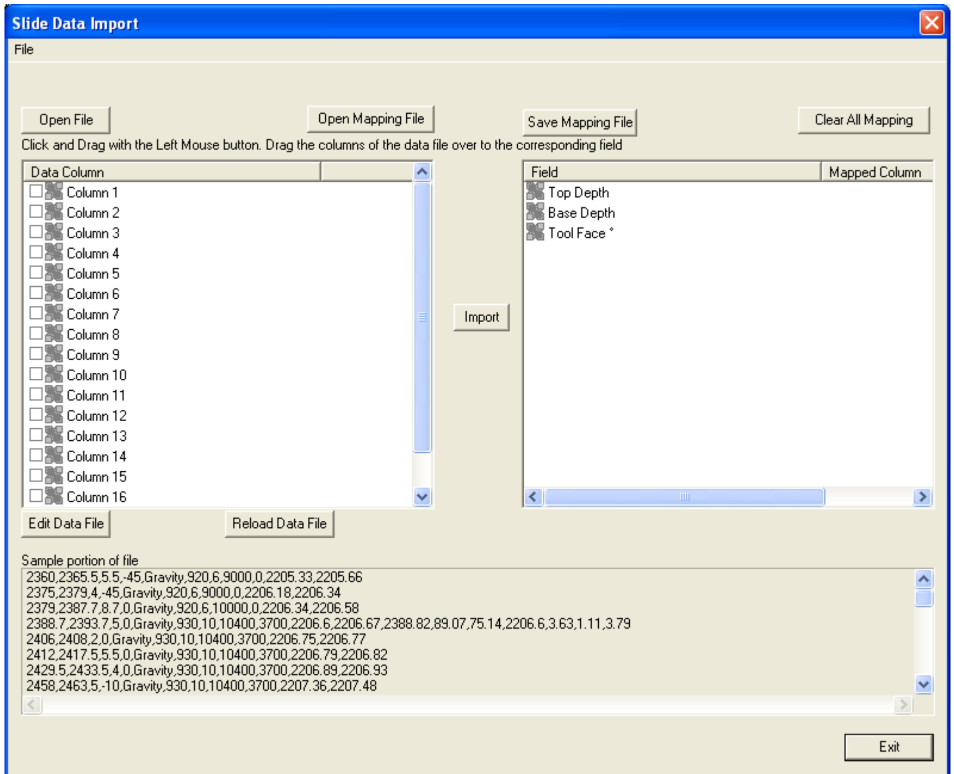
Correct 

Not Correct 

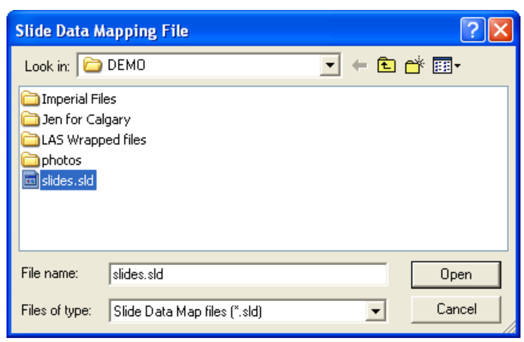
3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Slide Import Options window shown below.



4. The user must have some knowledge of the slide data as far as the Toolface orientation is concerned. Select the appropriate data format for the Toolface data by **click** on the appropriate **Radio Button** and then **click** on the OK **button**. This will activate the Slide Rotate Data Import window shown below.



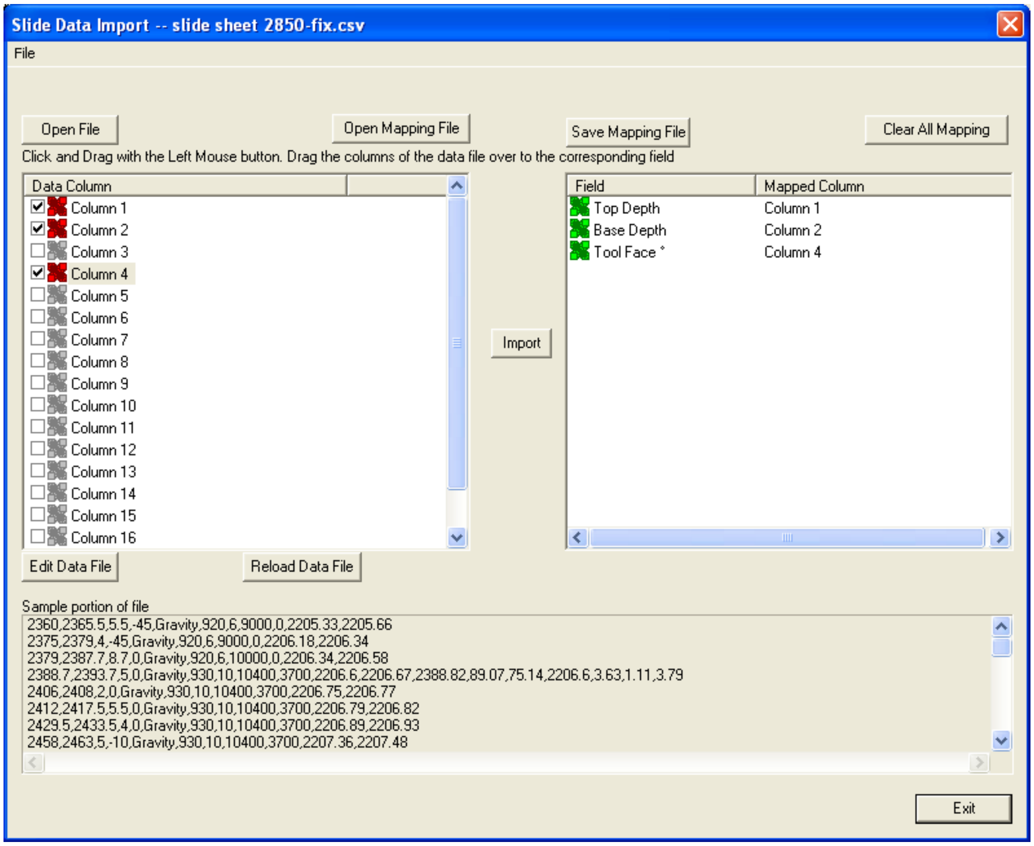
5. In the upper portion of the window **click** on the Open Mapping File **button**. This will activate an open file window.



6. Select the mapping file with the ***.sld** saved from previous imports of similar Slide data files to your slide table by highlighting the file and **clicking** on the Open **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

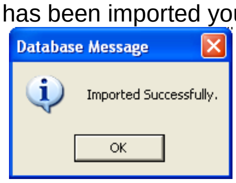
N.B. The user can **Right click** on the **Field** to remove the mapping.

7. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.

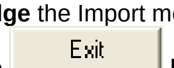


6. **Click** on the 

button. After the data has been imported you will be prompted with a system message.



7. **Acknowledge** the Import message. **Click** on the 

button and then click on the  to exit or **click** on the 

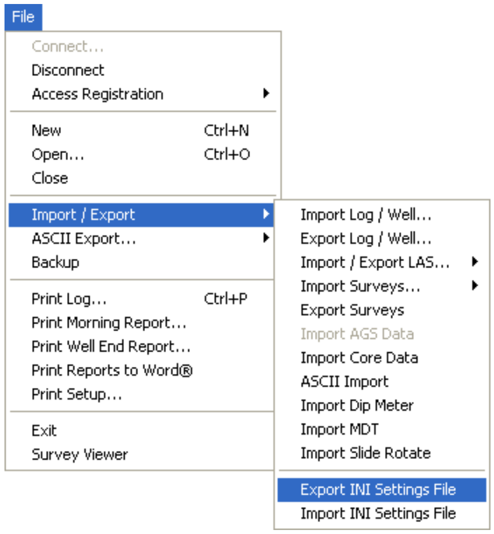
button to close the Window.

Export INI Settings

This will allow the user to export all the user's favorites' lists, the placement of the toolbars, window placements and default settings for another user to import to have all the settings the original user has set up.

Exporting INI Settings

1. To access the INI Export window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Export INI Settings**. This will activate the Export INI Settings file window as shown below and tells you the folder it has been saved into as IBF file extension.

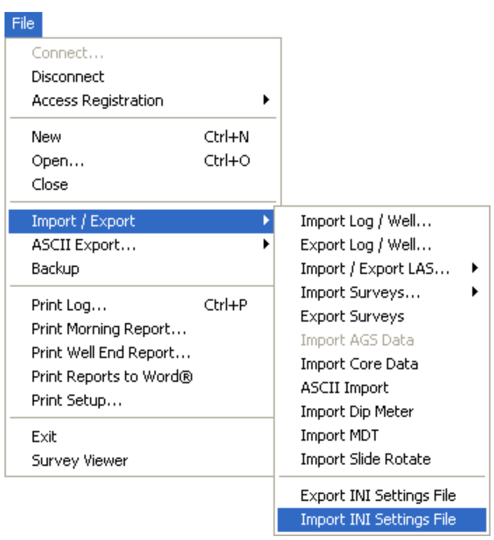


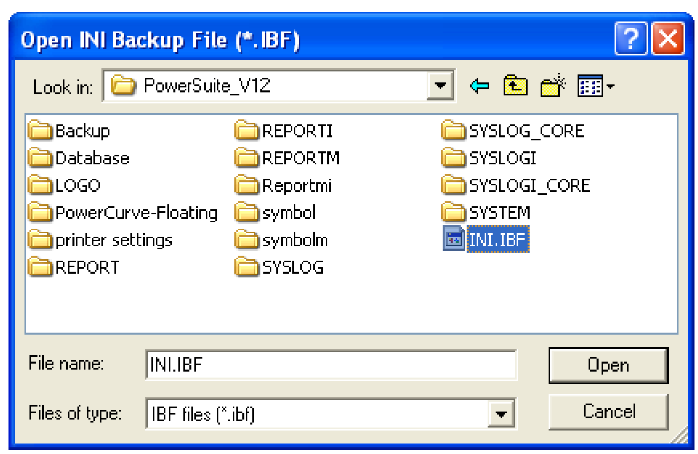
Import INI Settings

This will allow the user to import all the user's favorites' lists, the placement of the toolbars, window placements and default settings from another user who has exported this file and to have all the settings the original user has set up.

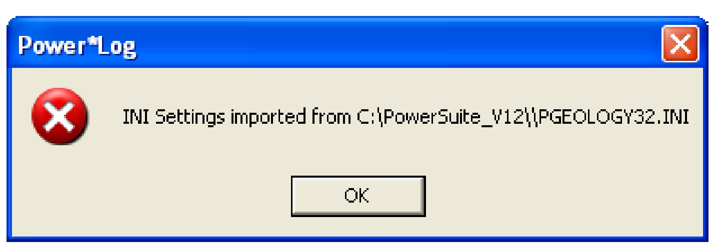
Importing INI Settings

1. To access the INI Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import INI Settings**. This will activate the Open INI Backup file Settings file window as shown below.





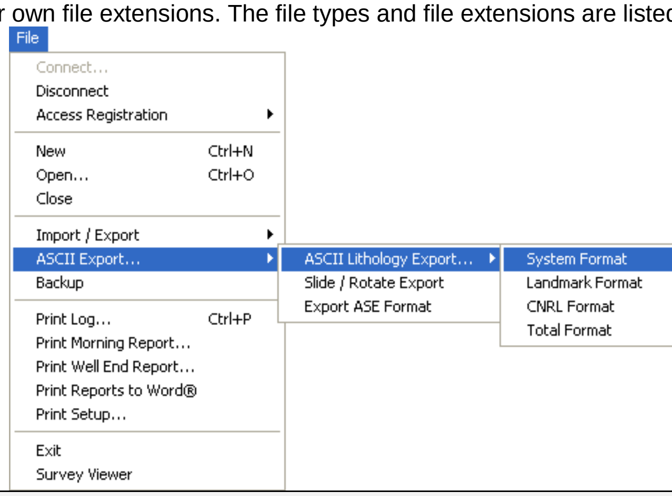
2. Select the file that has been exported and click on the  button. This will result in a system message that the file has been imported successfully as shown below.



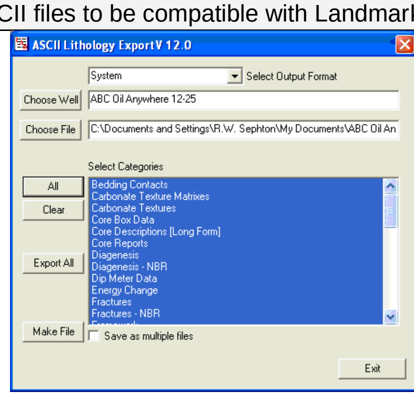
ASCII Export

ASCII Lithology Export

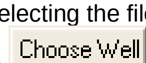
This utility will create ASCII files, or comma delimited files of certain lithology data types (other than curves) for any well in the database. The utility can create a single file of the chosen data categories or multiple files with the same file name entered and their own file extensions. The file types and file extensions are listed at the end of this section.

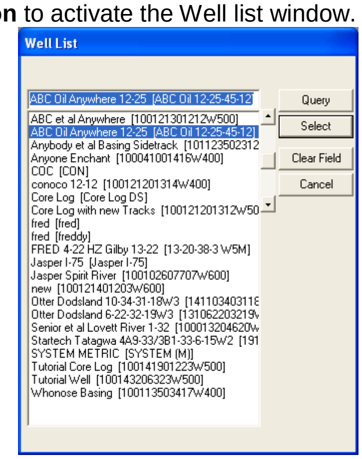


The first step in creating an ASCII or comma delimited file(s) is to select **ASCII Export** from the **File** menu selection. Then, select **ASCII Lithology Export** from the ensuing pop-out menu. Then, select the file format you wish to export the data into. We have tailored our ASCII files to be compatible with Landmark. This will

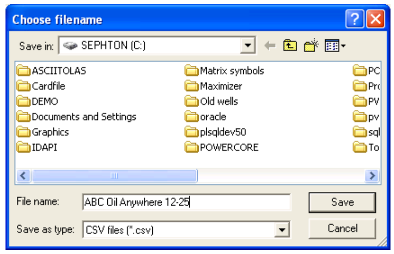


1. The user can select the file format for the ASCII Lithology export by clicking on the Select Output format arrow and selecting the file from the output list. This will place your selection in the file format field.

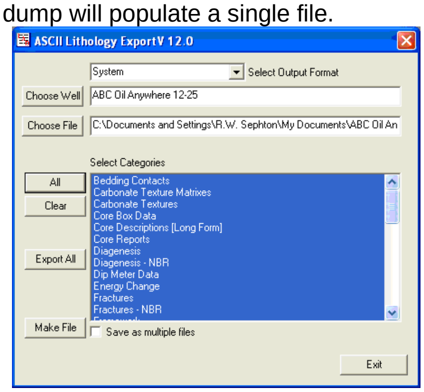
2. **Click** on the  **button** to activate the Well list window. This will activate the **Well List** window.



3. Select the well by double clicking on the Well Name / UWI that you wish to make a Lithology ASCII dump for. The user can also click on the Well Name / UWI to highlight it and then **click** on the Select **button**. This selection will then be populated in the Well field in the Log Dump window.
4. **Click** on the Choose File: **button** and this will activate the **Choose filename** window.

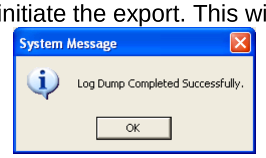


5. Type in a file name and select the drive and directory you wish the file(s) to be exported to. Then, **click** on the Save **button**. This will fill in the Choose file field in the Log Dump window with the drive, directory and file name.
6. **Select** the data types you wish to populate your ASCII lithology export file(s) with by **clicking** on **them once** to make them highlighted. The user can deselect the data types by clicking on them again. Also, the user can **click** on the All **button** to select all the data categories or **click** on the Clear **button** to clear all your selections.
7. If you want only one data type in each file created click on the **Save as multiple files** check box ☑. If deselected or unchecked the dump will populate a single file.



N.B. If the user wishes to export all the wells in your database at one time you must first create a folder to accept the ASCII file dump and then click on the Export All button.

8. **Click** on the Make File **button** to initiate the export. This will activate a System Message.



9. **Click** on the OK **button** to acknowledge the message.
10. **Click** on the Exit **button** to escape the Log Dump window or repeat steps 3-6 to create another set of ASCII Data Files.

List of multiple files exported if file name that was used was **dump**

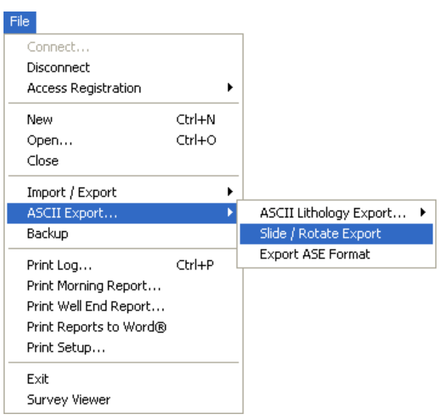
Bedding Contacts	dump.bdc
Carbonate Texture Matrix	dump.cbm
Carbonate Texture	dump.cbt
Core Box Data	dump cbx
Diagenesis	dump dg1

Diagenesis - NBR	dump dg2
Dip Meter Data	dump.dip
Fractures	dump.fr1
Fractures - NBR	dump.fr2
Framework	dump.fwk
Generic Fills	dump.gsf
Grain Size	dump.gsz
Grain Size Matrix	dump.gsm
Lithology	dump.ilg
Lithology Interbeds	dump.itb
Lithology Rock Accessories	dump.acc
Oil Shows	dump.oil
Oil Stains	dump.stn
Percents	dump.pct
Porosity Grade	dump.por
Porosity Type	dump.pty
Rock Accessory Symbols	dump.nra
Rock Accessory Symbols - NBR	dump.brs
Rounding	dump.rnd
Sample Descriptions	dump.dsc
Sedimentary structures	dump.nss
Sedimentary structures - NBR	dump.brs
Sidewall Cores	dump.swc
Sneider's Permeability - Core	dump.snc
Sneider's Permeability - Geo	dump.nss
Sneider's Permeability – Geo - NBR	dump.brs
Sorting	dump.srt
Trace Fossils	dump.nfs
Trace Fossils - NBR	dump.brs

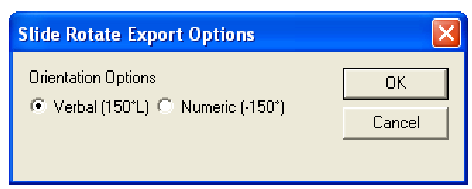
NBR = Non Bed Restricted

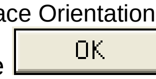
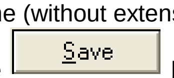
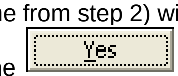
Slide / Rotate Export

This utility will create an ASCII file, or a comma delimited file for the slide rotate intervals of the log / well that is active at the time of the export.



1. The first step in creating an ASCII or a comma delimited file is to select **ASCII Export** from the **File** menu selection. Then select the **Slide / Rotate Export** from the ensuing pop-out menu. This will open the Slide Rotate Export Option window shown below.

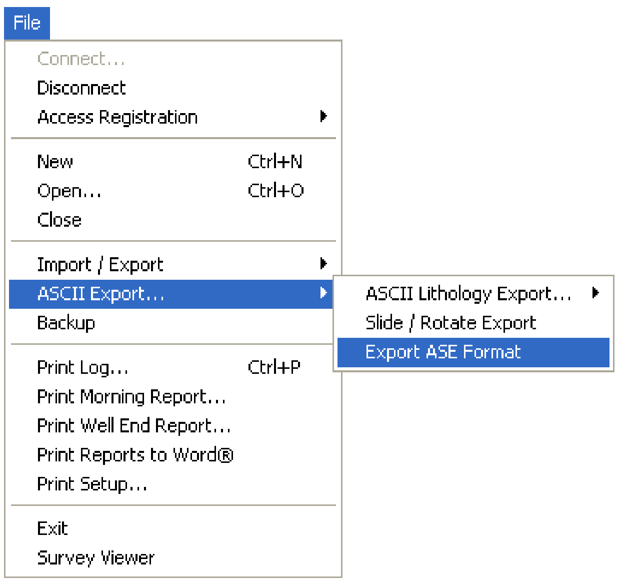


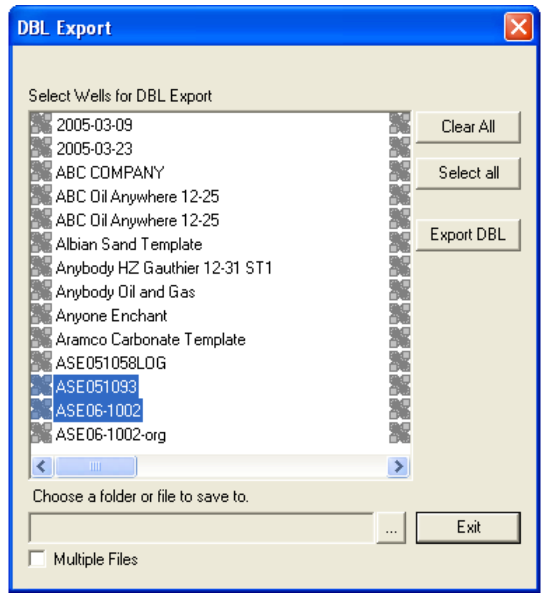
2. **Activate** the **Radio Button** beside the Toolface Orientation option you want for your ASCII export. **Click** on the  **Button** This will open the **Specify File Name** window.
3. Type in a file name (without extension) and select the drive and directory you wish the file to be exported to. Then **click** on the  **button**. This will activate a System Info – Slide / Rotate Extract window.
4. The System Info – Slide / Rotate Extract Window will notify you that a file called (file name from step 2) will be create in directory (directory specified in step 2). Do you wish to proceed? **Click** on the  **button** to initiate the export.
5. The file will be found in the location where was directed and can be opened in notepad / wordpad or into an Excel spreadsheet.

Export ASE Format

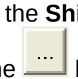
This utility will create dbl files, or comma delimited files of certain lithology data types (other than curves) for any well in the database. The utility can create a single file of the chosen wells or multiple files with the file name resulting from the well names.

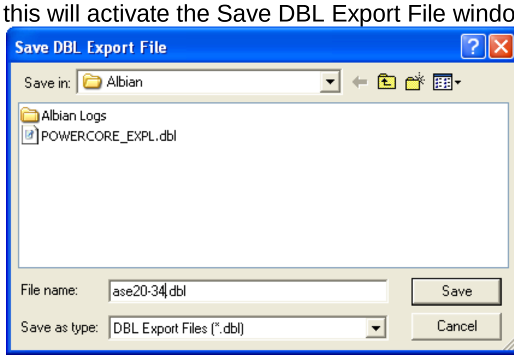
1. The first step in creating a dbl file format is to select **ASCII Export** from the **File** menu selection. Then, select **Export ASE Format** from the ensuing pop-out menu or by utilizing the Export DBL  icon on the toolbar. This will activate the DBL Export window.

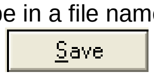




2. **Click** on the Well Names to highlight or activate the Wells in the list. Click on them again to deselect from the list. Hold down the **Shift key** to access multiple wells or the **CTRL Key** to single out wells.

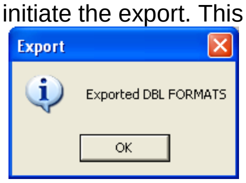
3. **Click** on the  **button** and this will activate the Save DBL Export File window.



4. Type in a file name and select the drive and directory you wish the file(s) to be exported to. Then, **click** on the  **button**. This will fill in the field in the DBL Export window with the drive, directory and file name.

5. If you want only one well per file created click on the M**ultiple files** check box . If deselected or unchecked the Export will populate a single file.

6. **Click** on the  **button** to initiate the export. This will activate a System Message.



7. **Click** on the 

button to acknowledge the message.

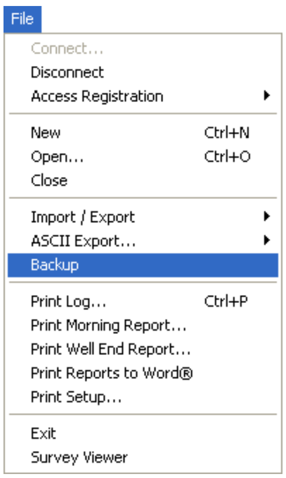
8. **Click** on the 

button to escape the Export DBL window or repeat steps 2-7 to create another set of DBL Data Files.

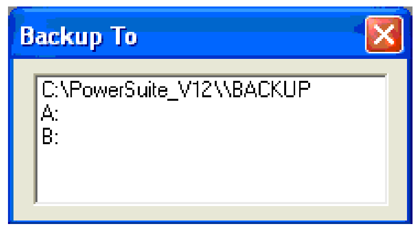
Backup

Power*Log / Core & Curve™ allows you to create a backup file of your active well or any other well you choose.

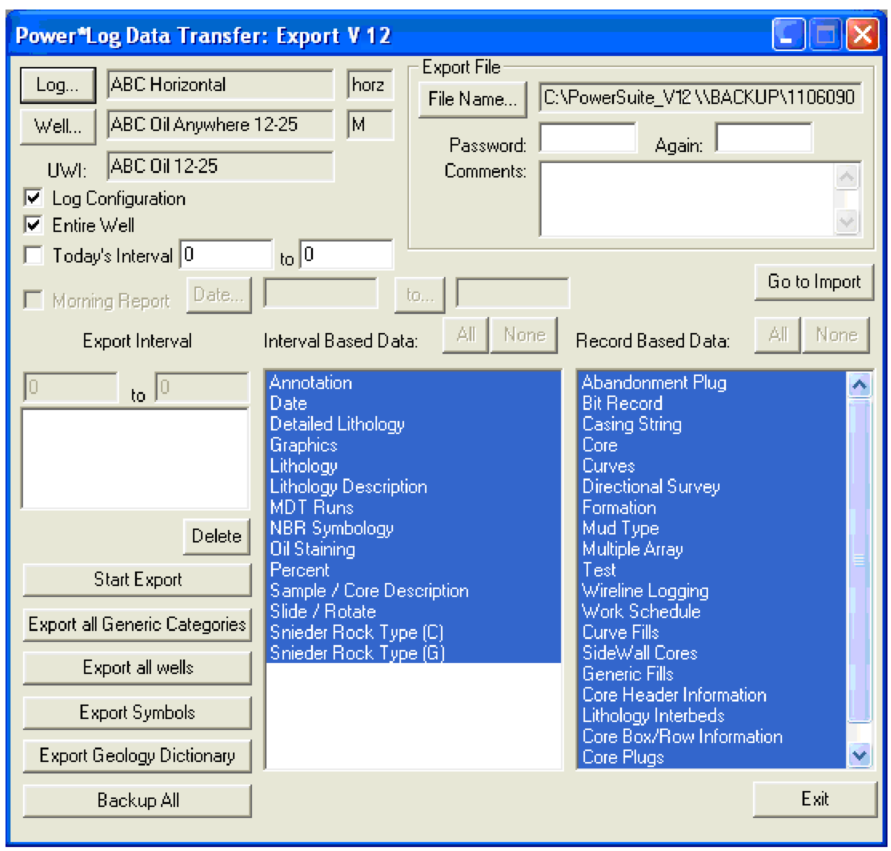
Creating a Backup of a Well…



1. With the well open at the time**, Click** on **Backup**, under the **File** menu selection, to activate the **Backup To** window.



2. Select the directory to which you wish to send your backup file: The **C:\Powersuite_V12\Backup** directory is created by **Power*Log / Core & Curve™** for the backup files, while the **A:** and **B:** drives represent the floppy drives on your computer.
3. **Click** on any one of the directories to activate the **Export** window shown.



Notice that the **Export** window automatically activates the **Log Configuration** and the **Entire Well** check boxes to ensure that <u>all</u> of your data is backed-up properly.

<u>Note</u>: If you had a log open and active, when you began the backup steps, please proceed to **Step 7**.

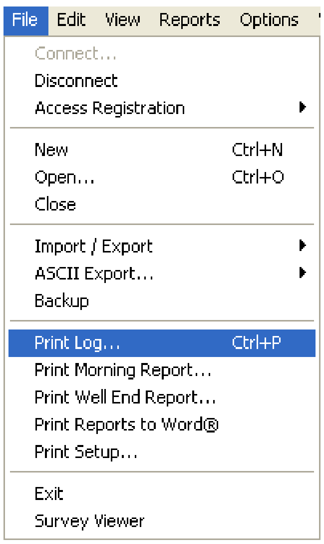
4. If you closed your log before exiting from **Power*Log / Core & Curve™** and you wish to make a backup, you will have to select a log and a well to back up. To do this, simply **click** on the Log... **button** to activate the **Open Log** window.
5. Then, **double click** on the **Available Log** you wish to back up and the **Export** window will be filled in accordingly.
6. **Click** on the Start Export **button** to begin the backup procedure. Note that the backup file will automatically be given a file name, based on the date and the number of times you have backed up wells in one day. The example shown in the **Export** window above is for May 5, 2000 and was the second backup of that day.
7. The following message then appears, "***Data has been exported successfully***." **Click** on the OK **button** to proceed.
8. Press the **Esc** key on the keyboard to exit from the **Export** window or **click** on the Exit **button**.

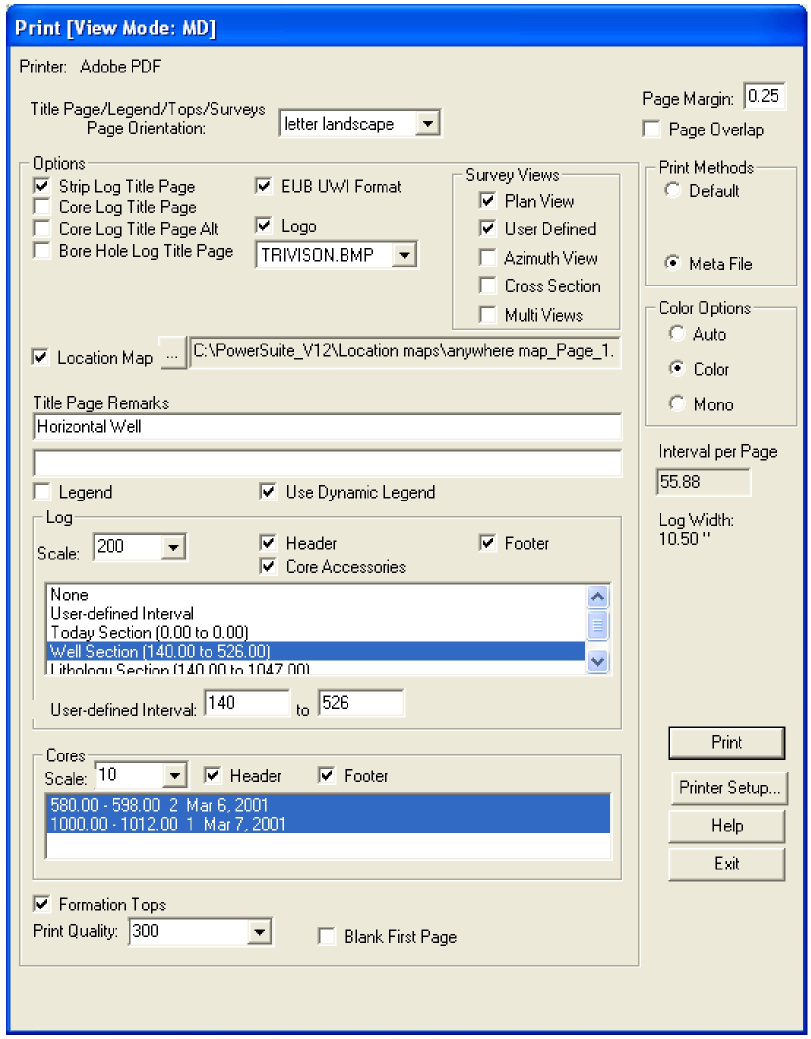
Print Log

Prints all or part of your log/well along with the Title page, location map, legends, survey views, individualized cores and formation tops on a continuous or single sheet basis

1. Under the **File** menu selection, **click** on **Print Log or click** on the **Print button** on the Toolbar to activate the **Print Log** window shown below:

Note: The Title bar and all depths associated with the Print Log window are defaulted to the Depth View that Power*Log or Power*Curve are in at the time of the activation of the Print Log window.





2. Title Page/Legend/Tops Page Orientation: legal landscape Select the appropriate paper orientation from this drop box field and the **Title Page**, **Legend**, and **Formation Tops** will automatically conform to the selected orientation. There are four (4) types of paper orientation to choose from: **letter portrait or landscape** and **legal portrait or landscape** settings.

> **<u>Note</u>:** The letter or legal landscape or portrait settings selected from within the **Print Log** window will <u>NOT</u> override the paper orientation settings selected in the printer's **Properties** window. Therefore, you must also modify the paper orientation settings in your printer's **Properties** window to letter or legal landscape.

3. ☑ Strip Log Title Page Activate this check box ☑, if you wish to printout a full Well sight Version of the Title Page.
4. ☑ EUB UWI Format If you are printing the Striplog Title page and you are in Alberta the EUB format should be selected.

> N.B. This format changes our UWI printout from 100121605812W500 to 00/12-16-058-12W5/0 only on the Striplog Title page. All other UWI formats remain the same.

5. ☐ Core Log Title Page Activate this check box ☑, if you wish to printout an abbreviated version of the Core Log Title Page.
6. ☐ Core Log Title Page Alt Activate this check box ☑, if you wish to printout an abbreviated version of the Core Log alternate title Page.
7. ☐ Sample Log Title Page Activate this check box ☑, if you wish to printout an abbreviated version of the Sample Log Title Page.

☑ Logo
TRIVISON.BMP

8. Activate this check box ☑, if you wish to printout a logo, and then select a logo from the **Logo** drop box field.

Note: Any bitmap image may be printed out as a logo. However, the bitmap image must be an equally sided square image, because **Power*Suite** will shrink or expand the image to fit the logo space on the **Title Page**. This bitmap should be placed in the **Powersuite_V12\logo** directory.

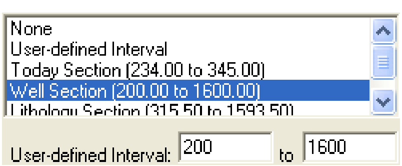
9. Type any pertinent comments into the **Title Page Remarks** field and they will be displayed accordingly on the **Strip Log Title Page only**.
10. ☑ Location Map ... C:\PowerSuite_V12\Location maps\anywhere map_Page_1. Activate this check box ☑, if you wish to printout a location map following the title page, and then the user select a location map from your computers drives by clicking on the ... and finding the file you want to print out as a location map.

Note: This must be a bitmap image file (*.bmp) if you want a location map to be printed out. Also, the bitmap image must be a square image, because **Power*Suite** will shrink or expand the image to fit the location map space following the **Title Page**. This bitmap can be placed anywhere as the file location is saved within the Power*Suite ini file.

11. Survey views ☑ Plan View Activate this check box ☑, if you wish to have the plan view (view of the well bore from surface) printed out in the striplog header as captured in the Survey View application.
12. Survey views ☑ User Defined Activate this check box ☑, if you wish to have the user defined view (view of the well bore as manipulated by the user) printed out in the striplog header as captured in the Survey View application.
13. Survey views ☑ Azimuth View Activate this check box ☑, if you wish to have the azimuth view (view of the well bore along the target azimuth) printed out in the striplog header as captured in the Survey View application.
14. Survey views ☑ Cross Section Activate this check box ☑, if you wish to have the cross section view (view of the well bore at right angles to the target azimuth) printed out in the striplog header as captured in the Survey View application.
15. Survey views ☑ Multi Views Activate this check box ☑, if you wish to have all the views printed out in the striplog header as captured in the Survey View application.
16. ☐ Legend Activate this check box ☑, if you wish to have our entire legend printed out.
17. ☐ Use Dynamic Legend Activate this check box ☑, if you wish to have the legend r**eflect only the symbols printed on the log or core portions of the printed intervals defined in the log and core portions of the print log window.**

In the Log portion of the Print Log window

18. Log Scale: 240 Select or type in the **Scale** for the main log to be printed out at, in the **Scale** drop box field.
19. ☑ Header Activate this check box ☑ to have the track headers printed out with the main log.
20. ☑ Footer Activate this check box ☑ to have the track footers printed out with the main log.
21. ☐ Core Accessories Activate this check box ☑ to have the core accessories printed out on the main log.



22. Highlight the main log printing options in the selection box. The user can select either **None**, **User-defined Interval** (requires that you manually enter the desired print interval depths), **Today Section**, **Well Section**, or **Lithology Section**.

Note: Today Section interval is derived from the **From** and **To** Depth values entered into the **Today's Section** portion of the Power*Log Data Transfer: Export window.

The **Well Section** interval is derived from the **Top** and **Base Depth** values entered into the **Print Sections** window (see **Print Sections**).

The **Lithology Section** interval is derived from what has been drawn into the interpretive lithology track of the well that is being printed.

23. If user **defined interval** is ch**osen the user can select which depth type, either measured depth, true vertical depth or subsea level depth from the depth measurement drop box. The user must also type in the depth interval to be printed.**

> **Note:** The log itself must be displayed in whatever depth view you wish to print before you activate the print log window. To change the log to the desired format, refer to depth view under the view pull down menu.

In the Cores portion of the Print Log Window

24. If you are printing out a **Core** log on the tail of the striplog, select the **Cores** you wish to print by highlighting them.

25. Cores Scale: 120 Select or type in the **Scale** for the core log to be printed out at in the **Scale** drop box field.

26. ☑ Header Activate this check box ☑ to have the track headers printed out with the core log.

27. ☑ Footer Activate this check box ☑ to have the track footers printed out with the core log.

> **Note:** A separate **Header Information Box** is automatically printed out with every **Core** and includes the **Core Scale**, **Core Date**, **Core Number**, **Cored Interval**, **Amount Cut**, **Amount Recovered**, and **Percentage**.

> **A value must be entered into the Core Scale field in order to printout anything. **

28. ☐ Formation Tops Activate this check box ☑ if you wish to printout **Formation Tops** and the **Formation Tops** will be included on a separate page at the end of the log printout.

Page Margin: 0.25 The page margin field is **available, primarily, when you are printing to Adobe Acrobat writer. When a numerical value in inches is typed into this field it will initiate a top and left margin for the templates (Title Page, Legend and Formation Tops) as well as a left margin for the main log.**

☐ Page Overlap Activate this check box ☑ if you are printing on single sheets. This will force the printer to include an additional 1/4 inch of the log at the top and bottom of each page, so that you can cut-and-paste pages manually**, if you so desire.**

Print Methods: ○ Default ◉ Meta File

Activating the **Default** radio button ◉ forces Power*Log / Core & Curve to use a **raster or bitmap graphic printing method.** This printing method is generally used with Laser printers but not exclusively so.

Activating the **Meta File** radio button ◉ forces Power*Log / Core & Curve to use the **meta file technology printing method**. This printing method was developed for the newer models of printers on the market today as well as using the Adobe Acrobat Distiller or pdf printing technology.

Color Options: ○ Auto ◉ Color ○ Mono

Auto Activating the Auto radio button ◉ forces Power*Log / Core & Curve to use the settings from the printer driver to printout the log.

Color Activating the Color radio button ◉ forces Power*Log / Core & Curv**e to override the printer driver settings and consequently Power*Log / Core & Curve assumes that you are using a color printer.**

Mono Activating the Mono radio button ◉ forces Power*Log / Core & Curve to override the printer driver settings and consequently **Power*Log / Core & Curve assumes that you are using a monochrome (black and white) printer.**

29. **Click** on the [Printer Setup...] **button** to activate the **Print Setup** window and confirm that the correct printer settings are in effect.

> **Note:** If you are printing out logs in color, you must activate the **Diffusion** or **Error Diffusion** option normally found under **Graphics** in the **Properties** window for most printers.

30. **Interval per page** field indicates how many meters of log will fit on a page of selected paper size and orientation selecte**d in the setup as well as what log scale you are printing at. This will help indicate to the user how many pages will be required by the print job.**

31. ☐ Blank First Page Activate this check box ☑ if the user wishes to have a blank page before the logs starts. Th**is could be useful if utilizing continuous paper when you want the title page oriented on the correct side of the prefolded paper.**

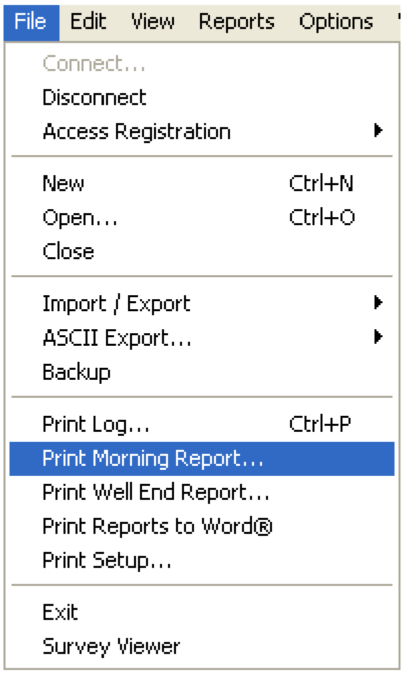
32. When you are ready to print your log, **click** on the [Print] **button**.

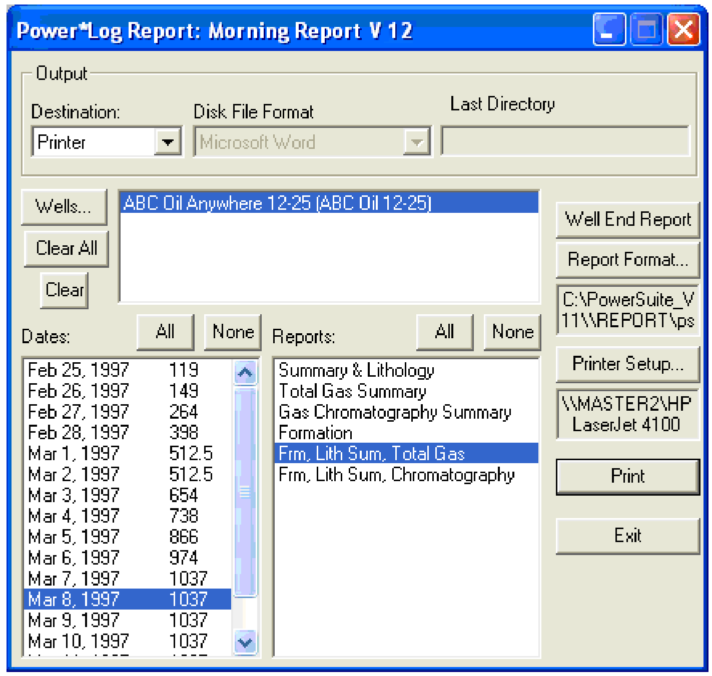
Note: If you do **exit** from the **Print Log window**, you will be ask**ed if you wish to save the print settings. If you click on Yes,** the program will remember every setting that you made to the **Print Log** window and then will default to those settings the next time you enter the Print Log window

Print Morning Report

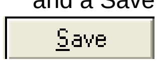
Prints Morning Reports

Under the **File** menu selection, **click** on **Print Morning Report** or click on the  **Morning Report button** on the **Toolbar** to activate the **Print Morning Report** window shown below:





Printing Morning Reports…

1. Select the printing destination from the **Output** field (in the upper left corner of the **Morning Report** window), drop box arrow: **Printer**, **Preview**, or **Disk File**. The **Preview** option allows you to see what your report looks like <u>before</u> it is printed. Note, however, that the **Preview** option will only preview one report at a time. Accordingly, when you wish to preview a specific report, please be sure that no other reports are selected / highlighted.
2. If printing to a **Disk File** (on your hard drive or to a floppy diskette), select the file format from the **Disk File Format** field drop box arrow
3. **Click** on  and a Save As window will pop up. Type in the in a **five (5) character (or less)** filename and click on the  **button**. **Power*Log / Core & Curve ™** will then attach an extra two (2) characters to the end of your filename to create a seven (7) character filename--preceding the standard three (3) character file extension. The two (2) characters added by **Power*Log / Core & Curve ™** on to the end of the five (5) characters you have typed in are used as a reference by **Power*Log / Core & Curve ™** to distinguish which reports are to be included in the files you are creating. Finally, the standard three (3) character file extension following the dot or period, will be selected according to the file format you selected in the **Disk File Format** field, e.g. **MS Word** documents will use the .DOC file extension.

For example, if the five (5) characters you chose for a file name were "***Trial***" and you chose to print all **Morning Reports** with multiple days (and your **Disk File Format** was **MS Word**), you would end up with the following six (6) files:

TRIALLT.DOC	Summary and Lithology Report
TRIALTG.DOC	Total Gas Summary Report
TRIALGS.DOC	Gas Chromatography Summary Report

TRIALFM.DOC	Formation Report
TRIALSC.DOC	Formation, Lithology Summary and Chromatography
TRIALSG.DOC	Formation, Lithology Summary and Total Gas

Note: You can then use a word processor, like MS Word, to access these files.

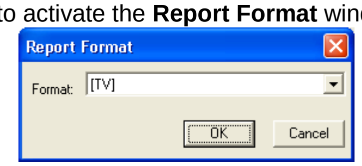
4. Select a **Well** that includes your **Morning Report(s)** by clicking on the Wells... **button** and then double click on the desired **Well** from the ensuing **Well List** window. Please note that you may select numerous **Wells**, from the **Well List** window, for printing. Once you have selected your **Well(s)**, you will then be returned to the **Morning Report** window.

Note: Only one well can be printed at one time, but you may print multiple days and reports for a single well all at once.

Only the selected/highlighted wells and their selected/highlighted reports will be printed.* *

To highlight a **Well**, click on it once. To remove a **Well** from the **Well List** field, highlight the **Well** and click on the Clear **button**. To remove all of the **Wells** from the **Well List** field, click on the Clear All **button**. Note that these buttons will not remove any of the **Wells** from the database. These buttons will only remove the **Wells** from the list of **Wells** currently available for printing.

5. Highlight the appropriate **Morning Report** (listed by **Date**), and the related reports that you wish to print. You may click on the All **button** to print all of the **Morning Reports** from that **Well**. Conversely, to deactivate all of the **Morning Reports**, simply click on the None **button**.
6. **Click** on the Report Format... **button** to activate the **Report Format** window.



Using the **Format** field drop down arrow, click on the style of **Report Format** that you wish to use. Then, **click** on the OK **button**, when you are finished.

Note: Report Formats are useful, when you are printing reports for various clients, who prefer specific **Report Formats**. The formats store reports in their own directories, which **Power*Log / Core & Curve ™** refers to when you choose to print reports in the specific formats.

7. **Click** on the Printer Setup... **button** and then select the 8.5" x 11" Portrait paper size.
8. **Click** on the Print **button** in the main window.

Formation Tops are automatically created in a **Morning Report**, if the depths specified fall within the range of the **Morning Reports**, two days prior to the day of printing. In order to have the **Formation Tops** printed, you must enter data into at least two **Morning Report Date** and **Depth** fields, prior to printing. **Power*Log/Curve™** searches for the **Depth** information to locate the **Formation Tops** it should include for the **Date** selected.

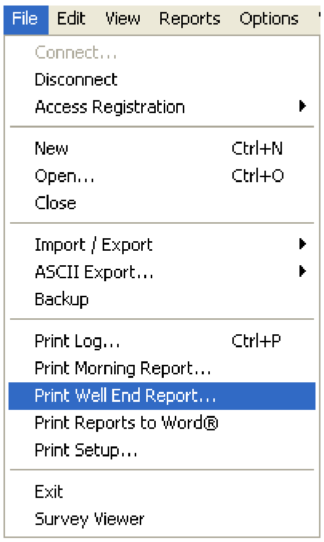
The **Well End Report** button will take you to the **Well End Report** window.

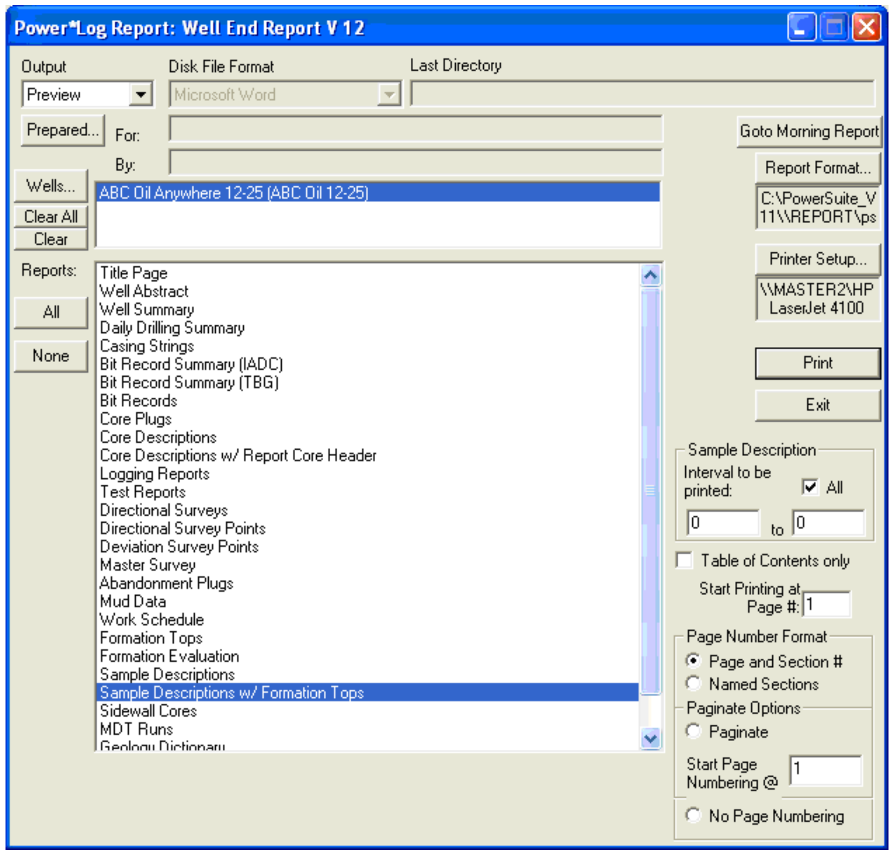
Note: When you exit from the **Print Morning Report** window, you will be asked if you want to save the print configuration. If you click on **Yes,** the program will remember every setting that you made to the window and will default to these settings the next time you enter the window.

Print Well End Report

Prints the reports for the end of a well

Under the File menu selection**, select Print Well End Report or click** on the **Well End Report button** on the Toolbar to activate the **Print Well End Report** window shown below:





Printing a Well End Report…

1. Select the printing destination from the **Output** field (in the upper left corner of the **Well End Report** window), drop box arrow: **Printer**, **Preview**, or **Disk File**. The **Preview** option allows you to see what your report looks like before it is printed. Note, however, that the **Preview** option will only preview one report at a time. Accordingly, when you wish to preview a specific report, please be sure that no other reports are selected / highlighted.

Note: To select or configure a specific printer, **click** on the Printer Setup... **button**.

2. If printing to a **Disk File** (on your hard drive or to a floppy diskette), select the file format from the **Disk File Format** field drop box arrow

3. **Click** on Print **button** and a Save As window will pop up. Type in a filename and **click** on the OK **button**. **Power*Log / Core & Curve™** will then attach an extra two (2) characters to the end of your filename--preceding the standard three (3) character file extension. The two (2) characters added by **Power*Suite™** on to the end of the filename that you have typed in are used as a reference by **Power*Suite™** to distinguish which reports are to be included in the file you are creating. Finally, the standard three (3) character file extension following the dot or period, will be selected according to the file format you selected in the **Disk File Format** field, e.g. **MS Word** documents will use the .DOC file extension.

Note: The Rich Text File currently gives you the best formatting. We have a separate directory in reports especially formatted for RTF reports that can then be opened in word.

Below is a list of two (2) character file name additions that **Power*Log / Core & Curve™** uses to identify different reports. For this example, a **File Name** of "***Trial***" with an **MS Word Disk File Format** will be used:

Report Name	File Output Name	Report Name	File Output Name
Title Page	trialtt1.doc	Well Abstract	trialwa1.doc
Well Summary	trialws1.doc	Daily Drilling Summary	trialdr1.doc
Casing Strings	trialcs1.doc	Bit Record Summary (IADC)	trialbs1.doc
Bit Record Summary (TBG)	trialbd1.doc	Bit Record Summary	trialbr1.doc
Core Descriptions	trialcd1.doc	Core Description / Report Core Header	trialct1.doc
Logging Reports	triallg1.doc	Test Reports	trialts1.doc
Directional Surveys	trialsv1.doc	Directional Survey Points	trialsp1.doc
Deviation Survey Points	trialds1.doc	Master Survey Group	trialmg1.doc
Mud Data	trialfl1.doc	Abandonment Plugs	trialpg1.doc
Formation Tops	trialtp1.doc	Work Schedule	trialwk1.doc
Sample Descriptions	trialst1.doc	Formation Evaluation	trialfm1.doc
Sidewall Cores	trialsw1.doc	Sample Description / Tops	trialfs1.doc
Core Plugs	trialcp1.doc	MDT Run	trialmdt1.doc
Geology Dictionary	trialgd1.doc	Table of Contents	trialtc1.doc

4. Select a **Well** for printing by clicking on the Well... **button** and then double **click** on the desired **Well** from the ensuing **Well List** window. Please note that you may select numerous **Wells**, from the **Well List** window, for printing. Once you have selected your **Well(s)**, you will then be returned to the **Well End Report** window

Note: Only the selected / highlighted wells and their selected/highlighted reports will be printed**

To highlight a **Well**, **click** on it. To remove a **Well** from the **Well List** field, highlight the **Well** and then **click** on the Clear **button**. To remove all **Wells** from the **Well List** field, **click** on the Clear All **button**. Note that these buttons will not remove any of the **Wells** from the database. These buttons will only remove the **Wells** from the list of **Wells** currently available for printing.

5. Select/highlight and/or deactivate any of the reports in the **Reports** field by clicking on them once. To select/highlight all of the reports, **click** on the All **button**. To deactivate all of the reports, **click** on the None **button**.

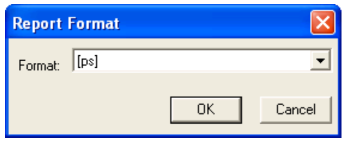
Note: Daily Drilling Summary Report Update… If your **Daily Drilling Summary Report** is not up-to-date or is missing **Progress** and **Average P.R.** (Penetration Rate) data you must select **Print Morning Report** under **File** on the **Selection Bar.** This will activate the **Print Morning Report** window, then exit from the **Print Morning Report** window (without performing any tasks), and return to the **Well End Report** window to printout your newly updated **Daily Drilling Summary Report**.

6. If you are printing **Sample Descriptions**, you may print all or a portion of the descriptions. To print all of the intervals, activate the **All** check box. To print specific intervals only, enter the start and end points, i.e. **Measured Depth** intervals, in the appropriate interval fields and then deactivate the **All** check box.

7. If you are printing the **Title Page**, **click** on the Prepared... **button** and fill in the required information. This information is only used on the **Title Page** of the report.

Note: In order to have the **Formation Evaluation Report** printed out, there are two fields that must be filled in on your **Well Formation** window. These are the **Boundary Type** field and the **Period** field. If these two fields are left blank, the **Formation Evaluation Report** for that **Formation** will not be printed out.

8. **Click** on the Report Format... **button** to activate the **Report Format** window shown below:



9. Using the **Format** field drop down arrow, **click** on the style of **Report Format** that you wish to use. Then, **click** on the OK **button**, when you are finished.

Note: Report Formats are useful when you are printing reports for various clients, who prefer specific **Report Formats**. The formats store reports in their own directories.

10. If you only want to printout a **Table of Contents**, activate the **Table of Contents Only** check box ☑ and then make sure that the reports you want to include on the **Table of Contents** are selected/highlighted.

Note: You can start printing at any page by typing the page number in the **Start Printing at Page #** field.

11. The user has a choice of paginating by section number (18 – 1, 2, 3 etc), or paginating by section name (Sample Description – 1, 2, 3 etc). The Table of Contents will reflect these choices if you print the table of Contents with all the reports at the time of printing.
12. The user also now has the choice of paginating the reports continuously pages 1 - infinity, and with this option you can also use the start printing at page # option.
13. **Click** on the Printer Setup... **button** and then select the 8.5" x 11" Portrait paper size.
14. **Click** on the Print **button**.

***The* Morning Report *button, in the upper right corner of the Print Well End Report window, will take you to the Print Morning Report window*. **

Note: Upon closing the **Print Well End Report** window, you will be asked if you want to save the print configuration. If you **click** on Yes **button,** the program will remember every setting that you made to the window and will default to these settings the next time you enter the **Print Well End Report** window.

Print to Preview

1. In the **Print Well End Report** or **Print Morning Report** windows, select "***Preview***" from the **Output** field drop box in the upper left corner of the given window.
2. Select the report you wish to preview by clicking on it and the report will then be highlighted.
3. **Click** on the Print **button** and you will be launched into the **Print Preview** mode, where you will see your report displayed on screen exactly as it will look when it is printed.

Note: You can only preview <u>one</u> report at a time. If numerous reports are highlighted, only the first one on the list will be previewed. Also, you can only printout one report at a time from within the preview mode.

When in the **Preview** mode, you have some tools available to you at the bottom of the screen.

100% This is the **Zoom** text field. It allows you to zoom in and out of the report to display it in different sizes.

This is the **Print** button. Click on this button to print your previewed report to paper.

This is the **Export** button. It lets you reproduce the report to another file format.

To exit from the **Preview** mode without printing, simply click on the **Close** button at the bottom of the **Print Preview** window.

You are able to view multiple page reports by using the navigational tools(similar to the **Database Navigational Tools**), at the lower left side of the **Print Preview** screen:

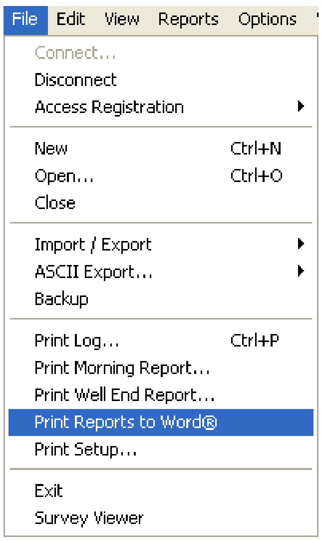
First Page | One Page Forward

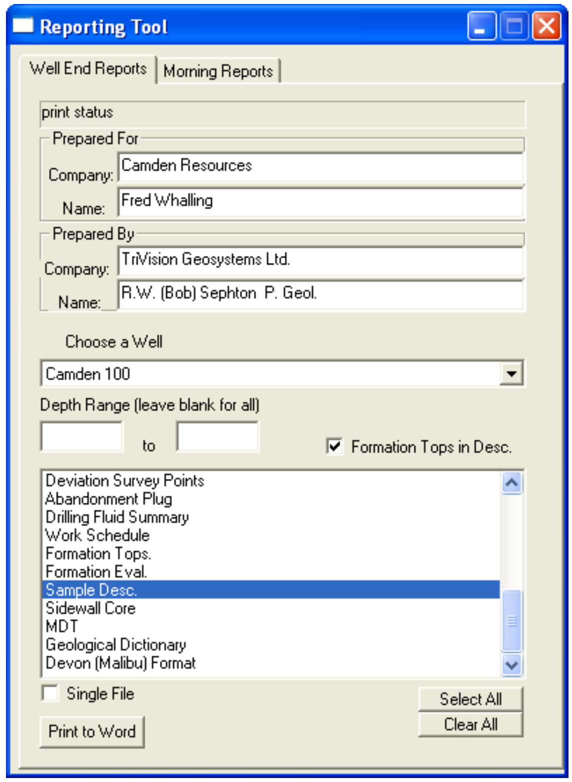
Last Page | One Page Backward

Print "Well End and AM" Reports to Word Format

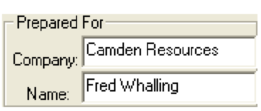
This printing method has been implemented to facilitate the printing of the Geological reports to a different format other than the Crystal Reports generated to this point in time. Most of the reports are very similar but are not just text fields that our users have had some problems with when they are printed to word format. This new generation of reports should be easily formatted to their particular reporting format.

1. **Click** on **Print Reports to Word**, under the **File** menu selection, to activate the **Print Reports to Word** window shown below. The user can also click on the Shortcut button  located on the toolbar.

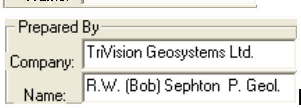




Overview of Well End Reports Tab Window

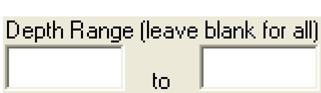


Prepared for Fields are to be filled in for the Title page report. Type in the Company Name you are working for in the company field and the Person's name you are working for or is receiving the reports in the Name field



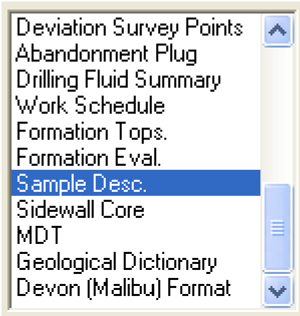
Prepared by Fields are to be filled in for the Title page report as well. Type in your Company Name in the company field and your name in the Name field

This field defaults to the well that is open when you enter into this application. The user can utilize the drop arrow to pick any well they have in their database.



The Depth Range fields are available to print a portion or depth interval of the Sample or Core descriptions as well as Devon Malibu Format Moring Reports. Leave these fields blank to print them all.

Activate this check box if you want to include the Formation tops in the Sample or Core Descriptions report.



This field gives the user to identify which well end reports they would like to print and they can also identify multiple reports to print at once. Click on the report name to activate or highlight the report to be printed and Click again to deactivate the report. Scroll through the list to identify which reports you wish to print.

Single File Activate this check box if you wish to print multiple reports to a single file. Or conversely deactivate this check box if you want multiple files created.

Select All This button will highlight / select all the reports and you can activate the reports you do not wish to print.

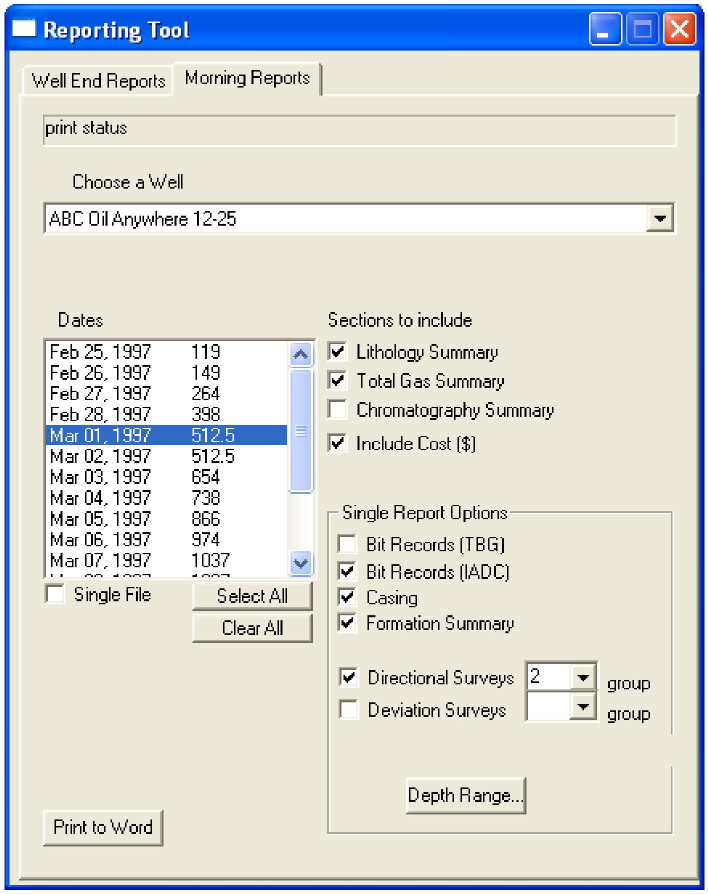
Clear All This button will dehighlight / deselect all the reports and you can activate the reports you wish to print.

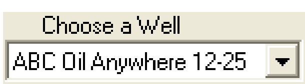
Print to Word This button will activate the printing process and create either single or multiple files. The documents created will be Document 1 Document 2 etc.

How to Print Well End Reports to Word Format.

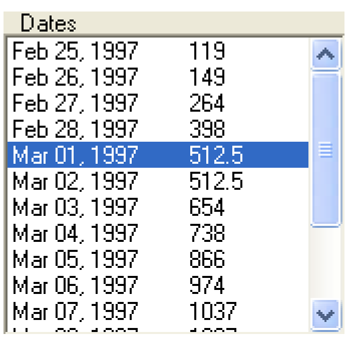
1. **Click** on **Print Report to Word**, under the **File** menu selection, to activate the **Print Reports to Word** window. The user can also **click** on the shortcut **button** located on the toolbar.
2. **Choose** the **well** you wish to create a report for from the selection box if the default well is not the one you want to print.
3. Highlight the reports you wish to print in the **Reports** field by clicking on them once. To select/highlight all of the reports, **click** on the Select All **button**. To deactivate all of the reports, **click** on the Clear All **button**. . **If you are printing sample or core Descriptions select if you wish to print tops or all the descriptions**.
4. **Click** on the Print to Word **button** to create the reports. This will activate your copy of MS Word application and you can view, customize and save these reports.

Overview of Morning Reports Tab Window



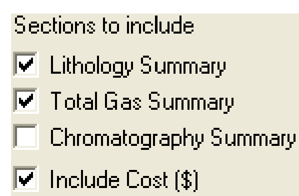


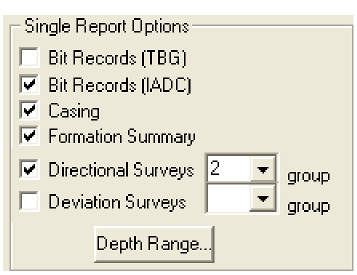
This field defaults to the well that is open when you enter into this application. The user can utilize the drop arrow to pick any well they have in their database.



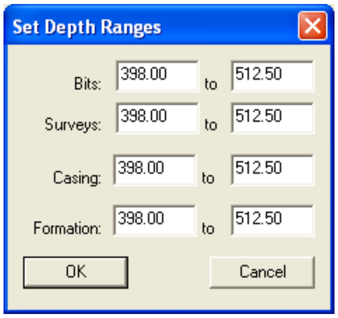
This field gives the user the ability to identify which Morning reports date they would like to print. The user has the ability to print one or more report dates. Select or deselect them by clicking on them once.

This identifies which portion of the report they would like to print. The choices will be activated with a check box. This information is entered into the Morning reports located under the Reports pull down menu in Power*Log / Core or Curve.





This portion of the window allows the user the ability to pick and choose which of the Well End reports they would like to include with the printed am report. They include Bit records Casing Formations and Surveys. All these records default to the depth interval from the previous morning report but can be modified by the user.



This Depth Range... button activates the Set depth range window so the user can decide what ranges of well end report data to include with the AM report printing. The default is the depth from the previous Am report and the one you have selected to print.

Single File Activate this check box if you wish to print multiple report dates to a single file. Or conversely deactivate this check box if you want multiple files created.

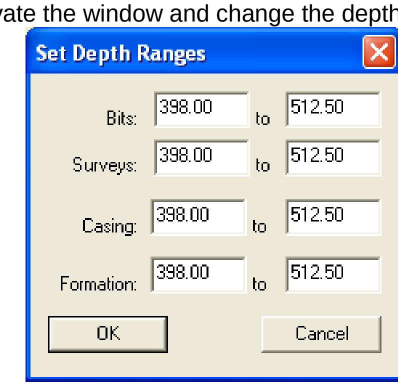
The Select All button will highlight all the am report dates.

The Clear All button will deselect all the am report dates.

The Print to Word button will activate the printing process and create either single or multiple files. The documents created will be Document 1 Document 2 etc.

How to Print Morning Reports to Word Format.

1. **Click** on **Print Report to Word**, under the **File** menu selection, to activate the **Print Reports to Word** window. The user can also **click** on the shortcut W **button** located on the toolbar.
2. **Click** on the **Morning Reports tab** to activate that portion of the window.
3. **Choose** the **well** you wish to create a report for from the selection box if the default well is not the one you want to print.
4. **Highlight** the **report dates** you wish to print in the Dates field by clicking on them once. To select/highlight all of the reports, **click** on the Select All **button**. To deactivate all of the reports, **click** on the Clear All **button**.
5. **Select** the **report options** from the appropriate check boxes.
6. **Select** from the Single Report Options which data from the **well end reports** you would like to include in this printed AM report.
7. If you have selected some Well End report data to be included with the AM report printing and you would like to change the default depths to search for a different interval of data then you would **Click** on the Depth Range... **button** to activate the window and change the depths accordingly.

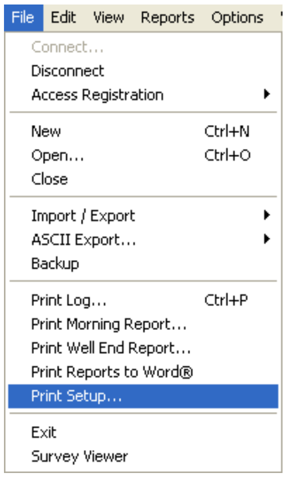


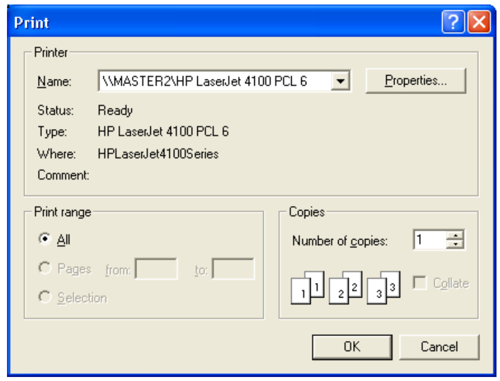
8. **Click** on the OK **button** to return to the main window.
9. **Click** on the Print to Word **button** to print the AM report to word format. This will activate your copy of MS Word application and you can view, customize and save these reports.

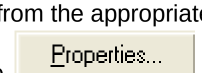
Print Setup

This command allows you to customize your printing options.

Click on **Print Setup**, under the **File** menu selection, to activate the **Print Setup** window shown below:



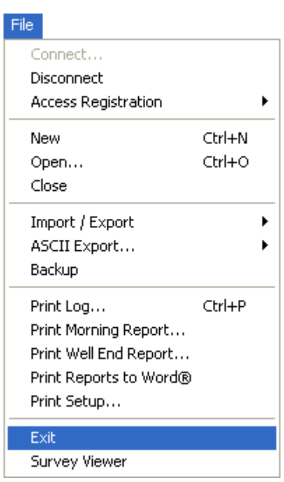


1. If you wish to use a printer other than the default printer, then select an available printer from the drop down menu.
2. Define the **Paper Orientation** by selecting either the **Portrait** or **Landscape** radio button.
3. Select a **Paper Size**(generally **Letter 8.5 x 11**), and **Source** from the appropriate drop boxes.
4. To modify settings that are specific to the printer, **click** on the  **button**.

Note: All reports are printed out in **Portrait** (**Letter 8.5 x 11**), however, logs may be printed in any format you wish.

5. If you are printing the log in color, then select **Diffusion** or **Error Diffusion**, under **Dithering**, via the **Graphics** tab from within the printer's **Properties** window. Conversely, if you are printing the log in black & white, then select **Coarse**, under **Dithering**, via the **Graphics** tab from within the printer's **Properties** window. Moreover, select **Print True Types as Graphics** via the **Fonts** tab from within the printer's **Properties** window, regardless of whether you are printing in black & white or color.

Exit



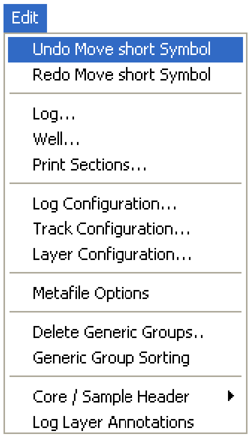
Closes current logs/wells, closes Power*Log / Curve / Core™, and returns to the Windows Desktop.

Click on **Exit**, under the **File** menu selection, to exit from **Power*Log / Curve / Core™.**
Shortcut:

Click on the shown below, at the far right of the **Title Bar**

Note: You do not have to save any of your changes prior to exiting from **Power*Log / Curve / Core™,** because all changes to the log/well are automatically saved to the **Power*Geology** database.

Chapter Two – Edit Menu



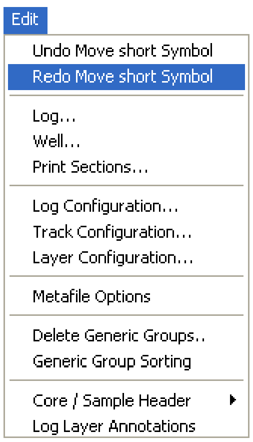
Undo

The Undo selection allows the user to undo any or all of the striplog manipulations, with respect to the layer functionalities, performed on the striplog. This includes adding, deleting, resizing, moving etc. of any of the individual layers functionalities. The undo comments changes with each function performed to indicate what undo action can be performed.

How to Undo:

1. **Click** on **Undo**, under the **Edit** menu selection, to undo the last **Log** action or the button on the toolbar.

N.B. This functionality does not undo anything that has been done in the data entry windows such as the Sample Description report etc.



Redo

The Redo selection allows the user to redo any or all of the striplog manipulations, with respect to the layer functionalities, performed on the striplog. This includes adding, deleting, resizing, moving etc. of any of the individual layers functionalities. The redo comments changes with each function performed to indicate what redo action can be performed.

How to Redo:

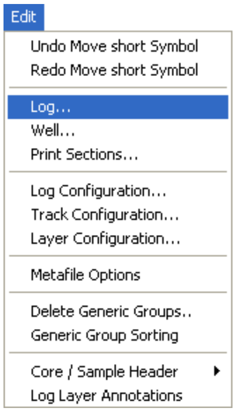
2. **Click** on **Redo**, under the **Edit** menu selection, to redo the last **Log** action or the button on the toolbar.

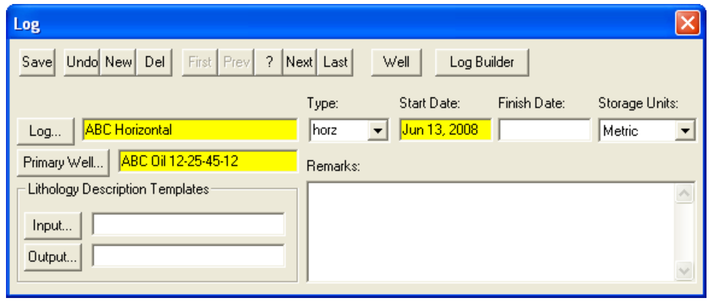
N.B. This functionality does not undo anything that has been done in the data entry windows such as the Sample Description report etc.

Log

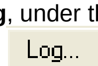
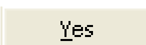
Allows you to add, delete, and edit log information.

A log can be defined as a series of tracks and their layers that have been specifically configured to meet the needs of the individual user. **Power*Log / Core & Curve** provides the user with seventeen (17) preconfigured **SYSTEM Logs** ranging in size from 8.5” to 14” wide.
When a new log is first created, it has the same name as the **Well/Log Name** that you entered into the **Well/Log Name** field of the **New Log** window. This log name can be changed at a later date in the **Log** field within the **Log** window, as can the **Primary Well**, that is identified by the **UWI**(**Unique Well Identifier**) originally entered into the **New Well** window.
Start Date and **Storage Unit** values are also derived from the information you originally entered into the **New Well** window.
The **Log Type** is determined by the program in which the log was created: if the log was created with **Power*Log** or **Power*Core**, then the **Log Type** will be vertical (**vert**). Conversely, if the log was created with **Power*Curve**, then the **Log Type** will be horizontal (**horz**).
The **Remarks** portion of the **Log** window, shown below, allows you to comment about your log configuration and its various unique characteristics.





How to Delete a Log

1. **Click** on **Log**, under the **Edit** menu selection, to activate the **Log** window.
2. **Click** on the  **button** to activate the **Log List** window.
3. **Double click** on the log you wish to delete and its attributes will be displayed accordingly within the **Edit Log** window.
4. **Click** on the  **Delete button** and a confirmation message will appear asking, "***Would you like to delete the current record?***"
5. **Click** on the  **button** to delete the log from the **Log List** and from the database.

<u>Note</u>: When you delete a log, you are not deleting the **Primary Well** or well data associated with that log. However, if you also wish to delete the **Primary Well** or well data associated with the log, see "**How to Delete a Well**" in the **Edit Well** section of the **User Manual**.

<u>Field Restriction Table:</u>

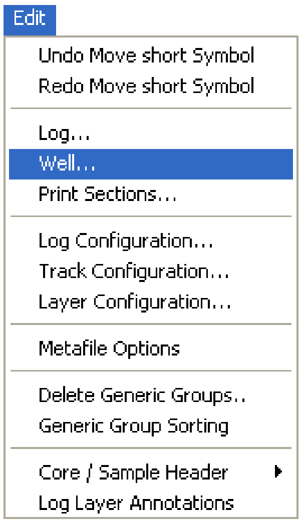
Log (ID)	50	Character	Mandatory
Type	10	Character	Optional
Start Date	DATE FORMAT	Mandatory	
Finish Date	DATE FORMAT	Optional	
Primary Well (UWI)	20	Character	Mandatory
Lithology Input	20	Character	Optional
Lithology Output	20	Character	Optional
Remarks	100	Character	Optional

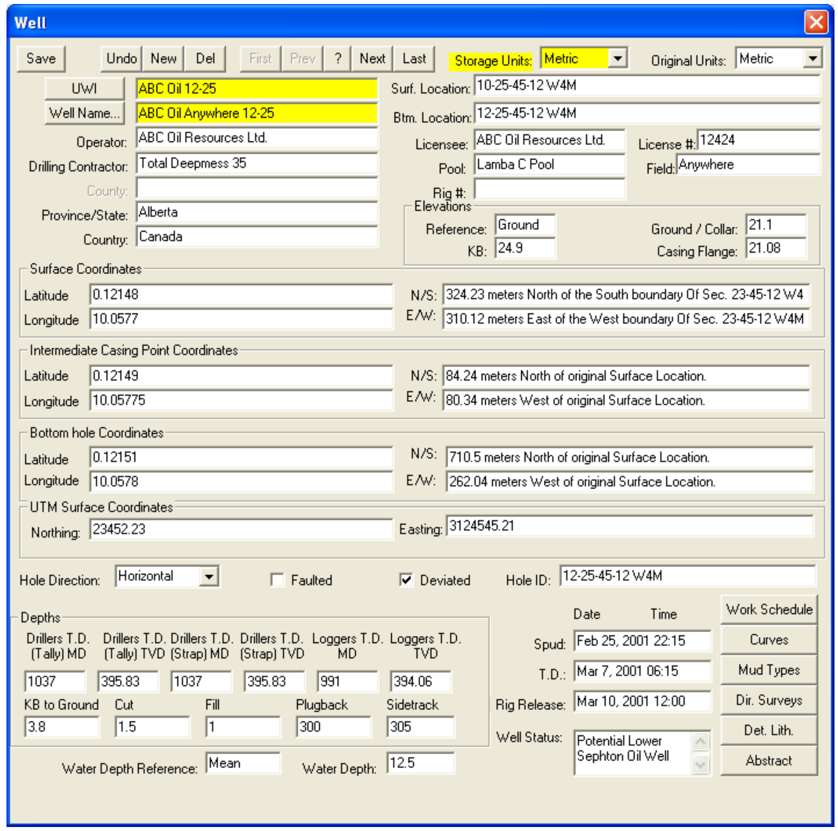
Well

Lets you edit existing wells, and delete a well. The majority of this information is usually filled in at the start of a well, but should be updated with new information at the completion of a well.

The information associated with each well is entered into the **Well** window, along with the well's **UWI** (**Unique Well Identifier**). Note that each well and the information that it contains must be associated with a **UWI** (**Unique Well Identifier**) in order to distinguish it from the other wells residing within the **Power*Log / Core & Curve** database. However, the only way in which a well's information can then be displayed is by associating it with a log and then having that log open.

1. **Click** on **Well**, under the **Edit** menu selection, to activate the **Well** window shown below:





Note: The well window has been filled in to give you an idea of how to complete the different fields.

2. Change or add to the different fields by typing in the fields. Certain fields have restrictions to what data they accept. If an error occurs while saving refer to the status bar for instructions.
3. **Click** on the Save **button or press ALT-S** and the well data that you have just entered will be saved to the database.

Note: The **Well Name** field should be highlighted after you have clicked on the Save **button or press ALT-S**, as an indication of a properly saved record. Some of the fields in the **Edit Well** window have character restrictions or mandatory requirements. Consequently, if any of these restrictions have been violated or if any requirements have not been met, the offending field will be highlighted and the problem will be displayed on the **Status Bar**, at the lower left hand corner of your screen. Remember to save your work again, after the problem has been rectified.

4. If the record has been successfully saved, **click** on the Exit **button**, when prompted with the **Shortcut Options** system window.

Det. Lith Button:

The Det. Lith. **Detailed Lithology button allows you to add Detailed Lithology Groups to your well as well as get access to the Detailed Lithology Scales. The Scales sometimes are entered wrong when initiating a log and can cause a floating point error in the program. The user can get access to the detailed lithology scales without opening the log.**

1. **Click** on **Well**, under **Edit**, to activate the **Well** window and it will default to the active well.
2. **Click** on the **Well Name** drop box to activate a list of well names and **double click** on the **Well Name** you wish to display within the **Well** window.
3. **Click** on the Det. Lith. **button** within the **Well** window to activate the **Detailed Lithology Group** window shown below:

4. **Click** on the **button or press ALT-N** to prepare the window for the entry of a new record.
5. Then, type a **Group ID** name for your new **Detailed Lithology Group** into the **Group ID** field.
6. **Click** on the **button or press ALT-S**.
7. If the record has been successfully saved, **click** on the appropriate button, when prompted with the **Shortcut Options** system window.

Now that you have added a Detailed Lithology Group to the log, you must associate it with a layer.

Associating an Existing Detailed Lithology Group with the Active Layer…

1. Make sure that the **Detailed Lithology** layer you wish to use is the active layer by selecting it from the **Layer Selection List**.
2. **Select** Layer Configuration, under the **Edit** menu selection, or click on the **Layer Configuration button** on the Toolbar to activate the **Layer Configuration** window.
3. **Click** on the **button** to activate the **Detailed Lithology Group List** window which lists all of the available **Detailed Lithology Groups** in the database for that well.
4. **Double click** on the **Detailed Lithology Group** you wish to associate with the currently active layer and you will be returned to the **Layer Configuration** window.
5. **Click** on the **button or press ALT-S** to save the changes to the active layer and exit from the window.

Deleting a Detailed Lithology Group…

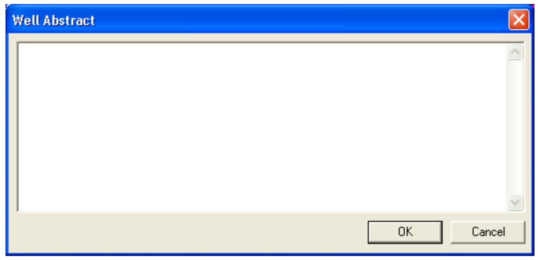
1. **Click** on **Well**, under the **Edit** menu selection, to activate the **Edit Well** window.
2. **Click** on the **button** to activate the **Detailed Lithology Group** window.
3. Use the **button** to find the **Detailed Lithology Group** you wish to delete.
4. When the **Detailed Lithology Group** name is displayed in the window, **click** on the **Delete button** and you will be prompted with the following message, "***Would you like to delete the current record?***"
5. **Click** on the **button** and the selected **Detailed Lithology Group** will be deleted accordingly.

Abstract Button

This button allows you to access the Well Abstract window, so that you may document an overview or maybe important facts regarding the well.

Adding Well Data to the Well Abstract window…

1. **Click** on **Well**, under the **Edit** menu selection, to open the **Well** window and it will default to the active well. This can also be found under the report menu selection.
2. **Click** on the **Well Name** drop box to activate the **Well List** window and then **double click** on the **Well Name** you wish to work on.
3. **Click** on the **button** within the **Well** window to activate the **Well Abstract** window.



4. Type in whatever information you feel is pertinent to the well you are currently working on and remember to keep your comments factual and concise.
5. When you are finished, **click** on the **button** within the **Well Abstract** window to return to the **Well** window.
6. **Click** on the **button or press ALT-S** within the **Well** window to save your work and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

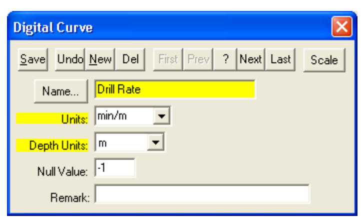
<u>Note</u>: You may return to the **Well Abstract** window as many times as you wish in order to update your well information.

Curve Button

The **button** activates the Digital Curve window and the user can edit the curve attributes as well as get at a secondary window to edit or view the curve scales. There are only two ways to change the Curve Attributes. One is through the Layer Configuration window and the other is Well Window and is located under the Edit pull down menu

How to Change the Digital Curve Attributes (Curve Units, Depth Units, Null Value and Remarks)

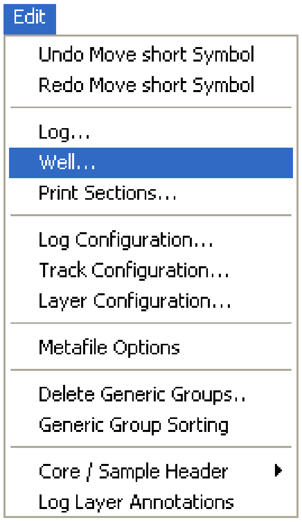
1. **Click** on the **button** in the lower right corner of the Well of the window. This will activate **Digital Curve** window. The user can also right click on an active curve layer and select the Edit Curve selection.

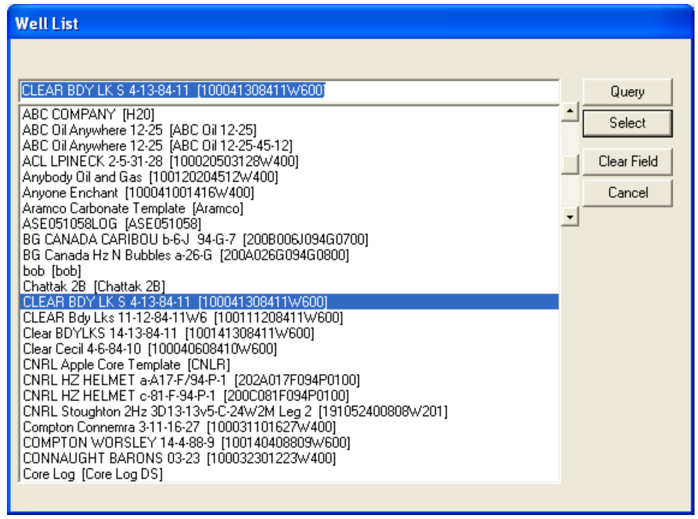


2. The Default Curve name will be the curve name first in the Alphabet. The user can **click** on the **button** to see a list of the curves associated with the primary well.
3. You can now rename, or **type** in, **new units**, change the **null value**, or add/change the **remarks**.
4. **Click** on the **button or press ALT-S.** The user can also change the curve scales by clicking on the **button** and editing the curve scales here.

How to Delete a Well

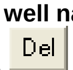
1. **Click** on the **Edit** menu selection and **Click** on **Well** to activate the **Well** window.
2. **Click** on the **button** to activate the **Well List** window.





3. **Double Click** on the well name you wish to delete and its attributes will be displayed in the **Well** window. Or **click** on the **well name** so that it goes into the upper field and **click** on the 

button.

4. **Click** on the 

button and a confirmation message will appear asking, "***Would you like to delete the current record?***"

5. **Click** on the 

button to delete the well from the **Well List** and from the database.

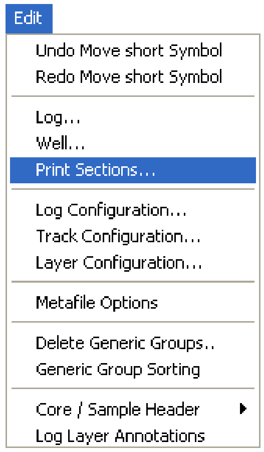
Note: When you delete a well, you are not deleting the log that the well is associated with. If you wish to delete the log, see "**How to Delete a Log**"

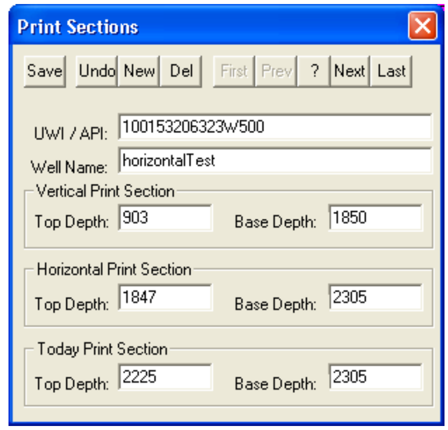
Field Restriction Table:

Bottom Hole Latitude	60	Character	Optional
Bottom Hole Location	50	Character	Optional
Bottom Hole Longitude	60	Character	Optional
Bottom Hole EW	100	Character	Optional
Bottom Hole NS	100	Character	Optional
Intermediate Casing Latitude	60	Character	Optional
Intermediate Casing Longitude	60	Character	Optional
Intermediate Casing EW	100	Character	Optional
Intermediate Casing NS	100	Character	Optional
Casing Flange Elevation	5.5	Numeric	Optional
Country	50	Character	Optional
County	50	Character	Optional
Cut	5.5	Numeric	Optional
Driller's TD (Strap) MD	5.5	Numeric	Optional
Driller's TD (Strap) TVD	5.5	Numeric	Optional
Driller’s TD (Tally) MD	5.5	Numeric	Optional
Driller’s TD (Tally) TVD	5.5	Numeric	Optional
Drilling Contractor	50	Character	Optional
Field (Assigned Field)	50	Character	Optional
Fill	5.5	Numeric	Optional
Ground Elevation	5.5	Numeric	Optional
Hole Direction	12	Character	Optional
Hole ID	15	Character	Optional
KB Elevation	5.5	Numeric	Optional
KB to Ground	5.5	Numeric	Optional
Licensee	50	Character	Optional
Logger’s TD MD	5.5	Numeric	Optional
Logger’s TD TVD	5.5	Numeric	Optional
Operator	50	Character	Optional
Plugback Depth	5.5	Numeric	Optional
Province/State	50	Character	Optional
Reference Elevation	12	Character	Optional
Rig Release Date	DATE FORMAT_24:00		Optional
Spud Date	DATE FORMAT_24:00		Optional
Storage Units	12	Character	Mandatory
Surface Location	50	Character	Optional
Surface EW	100	Character	Optional
Surface NS	100	Character	Optional
Surface Latitude	60	Character	Optional
Surface Longitude	60	Character	Optional
T.D. Date	DATE FORMAT_24:00		Optional
UTM East Coordinates	11.2	Numeric	Optional
UTM North Coordinates	11.2	Numeric	Optional
UWI	20	Character	Mandatory
Water Depth	5.5	Numeric	Optional
Water Depth Reference	4	Character	Optional
Well Abstract	40000	Character	Optional
Well Name	50	Character	Mandatory
SideTrack Depth	5.5	Numeric	Optional
Well Status	100	Character	Optional

Print Sections

The **Print Sections** window allows the **Power*Log / Core & Curve** user to preset the **Well Section** and **Today Section** print intervals within the **Print Log** window for a specific log/well. To activate the **Print Sections** window shown below, **click** on **Print Sections**, under the **Edit** menu selection.





Vertical Print Section - Allows the user to enter the **Top Depth** and **Base Depth** values representing the specific print intervals for a given <u>vertical</u> log/well within **Power*Log/Core**, which will then be automatically displayed as values in the **Well Section** within the **Print Log** window. This also controls the thumb on the scroll bar. Pull the thumb over ½ way along and it will go to the top of the log. It is the same for the base.

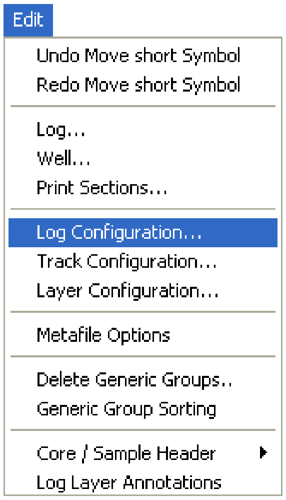
<u>Note</u>: The **Top Depth** and **Base Depth** print interval values may represent an interval that is larger than the lithologic interval, due to the presence of **Annotations** above and below the actual lithologic section.

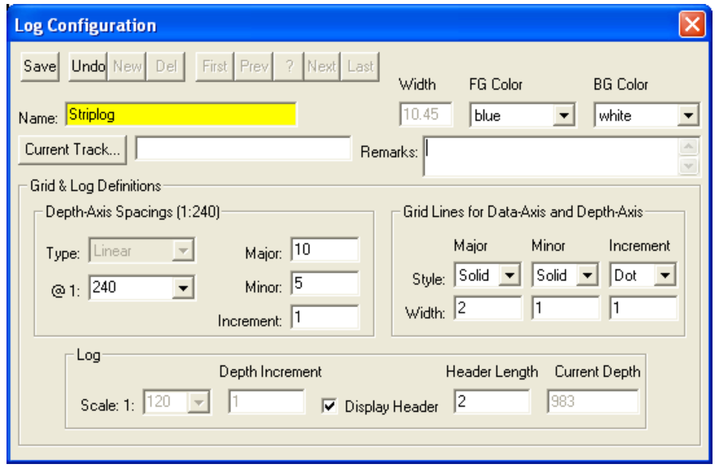
Horizontal Print Section - Allows the user to enter the **Top Depth** and **Base Depth** values representing the specific print intervals for a given <u>horizontal</u> log/well within **Power*Curve**, which will then be automatically displayed as values in the **Well Section** within the **Print Log** window. This also controls the thumb on the scroll bar. Pull the thumb over ½ way up and it will go to the top of the log. It is the same for the base.

Today Print Section - The values displayed in the **Top Depth** and **Base Depth** fields were originally entered as **Today's Interval** values within the **Export Log/Well** window and will also be automatically displayed as **Today Section** values within the **Print Log** window.

Log Configuration

Allows you to specify and customize Colors, Grids, Header lengths, and Axes within the striplog.
A log consists of at least 1 track and may contain as many tracks as you wish. The log configuration window allows the user to configure the **Line** types, **Colors** (foreground and background), and **Header*** length by adjusting the necessary fields.
*The **Header** is used to identify the layers within each of the tracks, both on the screen and on hard copy presentations.
Shortcut:
Toolbar: 





Editing the Active Log Configuration…

1. Open the log that you wish to edit.
2. **Click** on **Log Configuration** under the **Edit** menu selection, or use the  **Log Configuration button** on the Toolbar to activate the **Log Configuration** window.

Note: You may also access the **Log Configuration** window by clicking on the  **button** within the **Log Configuration Builder** window.

3. Make any changes in the following manner:

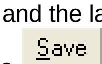
Grid Color - Select the desired **Grid Color** from the **FG** (foreground) **Color** field drop box.
Background Color - Select the desired **Background Color** from the **BG** (background) **Color** field drop box.
Grid Lines - Select the styles of your **Majors**, **Minors**, and **Increments** by selecting from the available styles in the drop boxes. Then, select the line width by entering a value in the **Width** fields.
Depth Axis Spacings - Select a **Linear** or **Ruler** style for the grid from the **Type** field drop box. Then, insert values into the **Major**, **Minor**, and **Increment** fields within the **Depth Axis Spacings** portion of the window.

Note: Select values that best fit the log screen and hard copy scales.

Log Scales	Major	Minor	Increment
5" (Imperial)	50	10	2
1:240 (Metric)	10	5	1
Core Log Scales	**Major**	**Minor**	**Increment**
1:120 or less	4	1	0.4 (For Grid Patterns displayed in 1/5ths)
1:120 or less	**4**	**1**	0.5 (For Grid Patterns displayed in 1/4trs)

Note: Implementing one of the **Core Log Scale** settings described above is only applicable to the printout of a **Core Log**. Once you have finished printing out your **Core Log**, you must change the **Depth Axis Spacing** values back to the default **Log Scale** of **1:240** and its associated settings.

Header Length - Type the length of the header (in inches) into the **Header Length** field. Make sure that the header is long enough to fully display the titles of each track and the layers within each track.

4. After completing the changes, **click** on the  **button or press ALT-S.**
5. Press **Exit** from the window that pops up to tell you your record was saved successfully and the changes will be displayed on the active log.

Field Restriction Table:

Name	30	Character	Mandatory
Width	3.2	Numeric	Optional
Current Track	30	Character	Optional
Remarks	100	Character	Optional

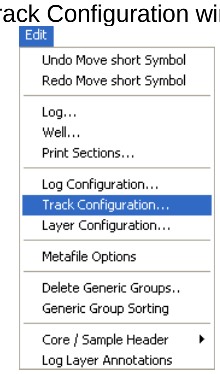
Depth Axis Type	15	Character	Optional
Depth Axis Major	5.5	Numeric	Optional
Depth Axis Minor	5.5	Numeric	Optional
Depth Axis Increment	5.5	Numeric	Optional
Major Style	5	Character	Optional
Major Width	1.2	Numeric	Optional
Minor Style	5	Character	Optional
Minor Width	1.2	Numeric	Optional
Increment Style	5	Character	Optional
Increment Width	1.2	Numeric	Optional
Log Scale	5.0	Numeric	Optional
Log Depth Increment	5.5	Numeric	Optional
Header Length	3.2	Numeric	Optional
Current Depth	5.2	Numeric	Optional

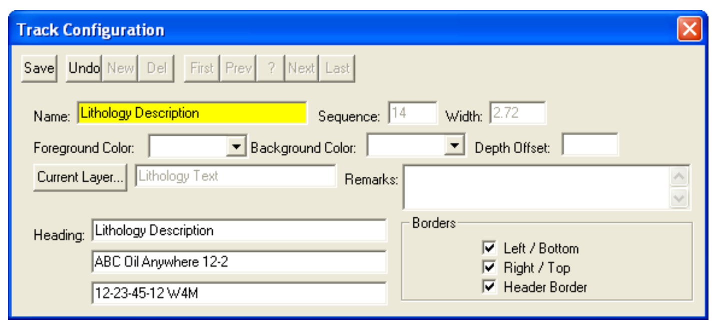
Track Configuration

This is the only window that allows you to offset tracks* and add information to individual track headers. This window will also allow the user to turn off the outside border of any Track.
A track is a portion of the log that contains one or more layers of information. The track configuration window can be used to edit the name of the track, the track header, and the track's depth offset in relation to the rest of the tracks within the log. The user must keep in mind that any track can be offset with respect to its actual depth. A positive integer will increase the depth of the track, while a negative integer will decrease the depth of the track. To be able to work within or on a track, the track must be **ACTIVE**: highlighted with a green border. The Track configuration will also allow the user to turn off or on the track borders between tracks.
***Track Offsetting** is only available to those users possessing the **Correlational Module**.

Shortcut: 

This is the Track Configuration window:





Editing the Active Track Configuration…

1. **Click** on the desired **track** to make it active: highlighted with a green border.

2. **Click** on **Track Configuration**, under the **Edit** menu selection, or **click** on the  **Track Configuration button** on the **Toolbar** to activate the **Track Configuration** window shown above.

Note: You may also access the **Track Configuration** window by clicking on the  **button** within the **Log Configuration Builder** window, once you have highlighted the track you wish to edit.

Adding a Track Header

3. Type the desired **Header** information into the **Heading** fields within the window.

Offsetting or Depth Shifting a Track: (Correlation Module only)

4. Type the offset figure into the **Depth Offset** field within the window.

Note that a positive integer will increase the depth of the track (move it down), while a negative integer will decrease the depth of the track (move it up).

Changing Track Borders for the main log

5. The user can turn off and on the borders between tracks on any log. The Track border is turned on when the check box is activated or selected and is turned off when the check box is deactivated or unselected.

Changing Track Borders for the track header

6. The user can turn off and on the borders between tracks on any log. The Header border is turned on when the check box is activated or selected and is turned off when the check box is deactivated or unselected.

Note: To turn off the border between two tracks the left or bottom selection of one track and the right or top selection from the adjacent track must be deactivated or unchecked.

7. **Click** on the Save **button** or press ALT-S.
8. A system message will appear telling the user *"Record saved successfully. Do you wish to Exit?"* **Click** on the Yes **button** to exit the window and view your changes.

Field Restriction Table:

Name	30	Character	Mandatory
Sequence	5.0	Numeric	Optional
Width	3.2	Numeric	Optional
Depth Offset	5.2	Numeric	Optional
Current Layer	30	Character	Optional
Remarks	100	Character	Optional
Heading (1, 2, & 3)	30	Character	Optional

Layer Configuration

The Layer is the lowest level of a log. A layer is part of a track, which in turn is part of a log. The Layer The Layer is the lowest level of a log. A layer is part of a track, which in turn is part of a log. The Layer Configuration window allows you to edit all aspects of any given layer. You have access to all layer attributes, including curve attributes, layer grid styles and patterns and layer display controls. You may also control the display format and depth offset of layers in this particular window. None of the layer data types use all the layer controls.

A layer is a set of information that is displayed on a track. A track can consist of one or more layers. The layers are positioned within a track and are superimposed or stacked on top of one another, if there are multiple layers in a track. You are able to show/hide the layers and adjust the layering order. This can be done in the Layers Organizer window located under the view pull down menu.
You can only work with one layer at a time and we call this the **active layer** on an **active track**. Layer information is restricted to the **Primary Well** of your log, unless you have the **Correlational Module**, which allows a layer to be pointed at any well in the database. A layer can access any type of information in the **Primary Well** or any other well in the database and display it within the log. A layer can be offset on its depth axis to make correlations between wells relatively simple.
In the **Layer Configuration** window, you are able to associate specific **Annotation Groups** with **Annotation** layers via their **Annotation Group ID**. The user can also associate specific **Data Groups** with a specified layer.

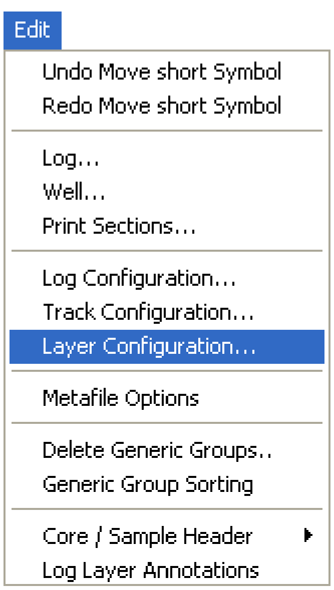
Note: The **Correlational Module** allows you to access all of the **UWI's** or wells in the database in order to display their information in comparison with the current **Primary Well** on the same log.

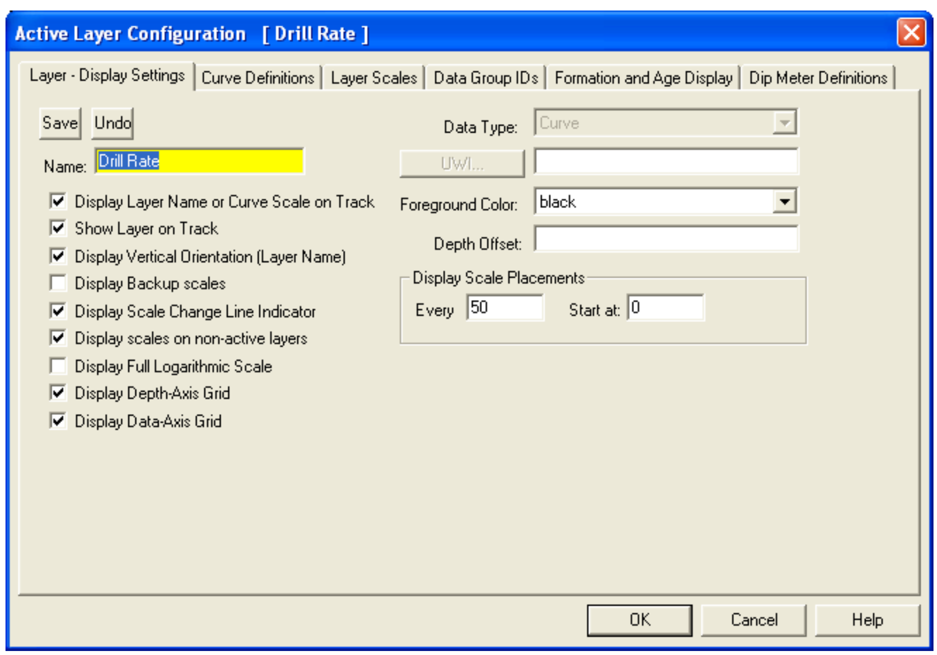
There are numerous Data Types for Layer Configurations. Each data type viewed below are shown in the data type field of each layer and it represents what type of data each layer can show. For instance a Curve layer can only show curves. The directional survey layer can only show survey data. These data types are listed on the next page.

Accessories
Age (Era/Series/Stage)
Annotation (Track)
Annotation (Log)
Bedding Contacts
Bioturbation
Bit Record
Carbonate Texture
Carbonate Texture Matrix
Casing Data
Change Energy / Sea Level
Core
Core Box Data
Core Bulk Density
Core Grain Density
Core Permeability Kmax
Core Permeability K90
Core Permeability KV
Core Permeability K Air
Core Porosity Calculated
Core Porosity Helium
Core Porosity Measured
Core Sample Code
Curves
Curve Fills
Date / Drilling Schedule
Depth
Detailed Lithology
Diagenesis
Dip Meter Data
Directional Survey
Formation (Group /
Formation / Member)
Formation (Short Name)
Formation (Long Name)
Fractures
Framework
Generic Category
Generic Symbol
Grain Size
Grain Size Matrix
Graphics
Hole Dip Meter Data
Interpretive Lithology
% Lithology
Lithology Descriptions
MDT Data
Multi Array Curve layer
Oil Show
Oil Staining
Percent
Porosity Grade
Porosity Type
Rounding
Core Saturated Bulk Mass – Fluids
Core Saturated Bulk Mass – Oil
Core Saturated Bulk Mass – Water
Core Saturated Bulk Mass – Solids
Core Saturated Bulk Mass – Totals
Core Saturated Grain Mass – Oil
Core Saturated Grain Mass – Water
Core Saturated Pore Volume – Oil
Core Saturated Pore Volume – Water
Core Saturated Pore Volume (Frc)- Oil
Core Saturated Pore Volume (Frc)- Water
Sedimentary Structures
Sidewall Cores
Slide / Rotate
Snieder's Rock Type Geology
Snieder's Rock Type Core
Sorting
Surveys
Tests
Trace Fossils

Shortcut: 

This is an example of our Tab Dialogue Configuration window for a Curve Data Type Layer:





How to Edit a Layer Configuration Window

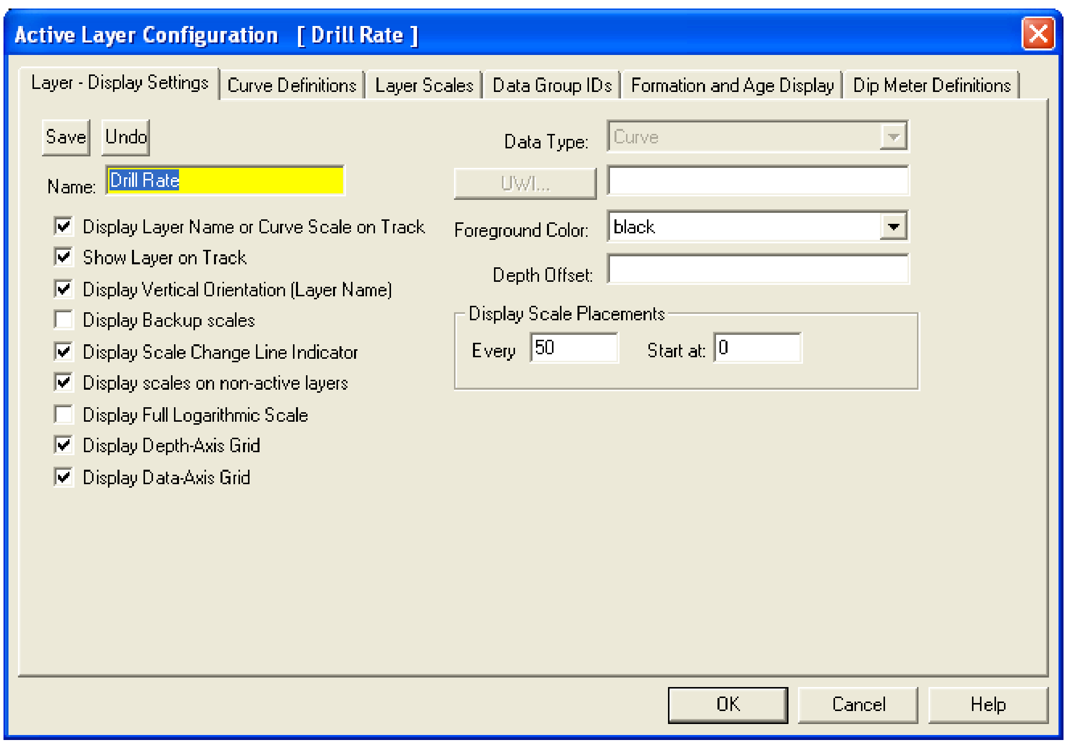
1. Make the desired layer active by **clicking** once on the **track** containing the layer to make the track active (Highlighted in Green).
2. **Click** on the **Layer Selection List** located on the Selection Bar (top left corner) and **select** the desired **layer name** contained within the currently active track that you wish to edit or make changes to.
3. **Click** on the **Edit pull down menu** and **select Layer Configuration or click** on the **Layer Configuration button** on the Toolbar to activate the **Layer Configuration** window.

<u>Note</u>: You may also access the Layer Configuration window by clicking on the Layer Config. **button** within the Log Configuration Builder window, once you have highlighted the layer that you wish to edit.

4. Edit the Layer Configuration window, according to the specific requirements of each individual layer or data type as to what you would like the layer to look like, as outlined in various sections of the User Manual and then **click** on the Save **button** when finished.
5. A system message will appear telling the user *"Record saved successfully. Do you wish to Exit?"* **Click** on the Yes **button** to exit the window and view your changes.

Display Settings Tab

This tab in the layer configuration window allows the user to change the display setting for each individual layer. An example is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

The Name: Drill Rate field in yellow is a mandatory field. This is the name that is displayed for a layer or a curve irregardless of the Curve you have identified to show on this layer within the Curve Definition Tab of this dialogue window.

Display Layer Name or Curve Scale on Track - If this box is checked (default), indicates that the Curve Scale or Layer heading will be displayed in the track header.

Show Layer on Track - If this box is checked (default), indicates that the layer is being displayed.

Display Vertical Orientation (Layer Name) If this box is checked indicates that the Layer heading will be displayed vertically in the track header. If unchecked it will be displayed horizontally.

Display Backup scales If this box is checked (default), any time a curve goes off scale or wraps the curve is hatched and the backup scale is viewed on the Layer.

Display Scale Change Line Indicator If this box is checked (default), any time the user changes scale a line will run across the layer (color and size to be found in the right click curve menu only) indicating a scale change.

Display scales on non-active layers If this box is checked (default), it will display the scales (including scale changes) for a curve on the log will be shown regardless of which layer is active at the time.

Display Full Logarithmic Scale If this check box is activated it will display all the major cycles will be labeled. If this is unchecked or deactivated only the two end borders of the scale will be activated.

Display Depth-Axis Grid If this box is checked (default), it will display the **Depth Axis Grid** (**X-axis**), Horizontal grid lines in Power*Log and Vertical grid lines in Power*Curve as defined in the **Log Configuration Layer Scale Tab Dialogue window**.

Display Data-Axis Grid If this box is checked (default) it will display the **Data Axis Grid** (**Y-axis**) Vertical grid lines in Power*Log and Horizontal grid lines in Power*Curve, as defined in the **Log Configuration Layer Scale Tab Dialogue window Data Axis Grid Style**.

UWI... UWI Button

Normally, the **UWI** field within the **Layer Configuration** window should be blank, because the layer normally exhibits data from the **Active or Primary Well** on the current log. This Button or field (if you have the Correlational Module) will allow you to exhibit another wells data.

<u>**Note:**</u> If you decide to use this log as a <u>template</u> for creating future logs and refrain from clearing the **UWI** field(s) in the **Layer Configuration** window(s), then all future logs created from this template will contain layers pointing to <u>another</u> **UWI**.

If you possess the **Correlational Module**, you can use the UWI... **button** to access data from other **UWIs** or wells within the database.

How to Display a different Wells data on a layer of an Existing Log from another UWI or well.

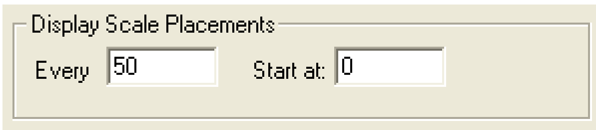
1. To access other wells within the database, **click** on the UWI... **button**. This will activate a Well List window.
2. Double click on the Well you wish to display on this layer. This will select the well you wish to retrieve the data from. You will now view the UWI of the well you chose in the UWI field of the Layer Configuration window. However, keep in mind that the type of well data that you are able to retrieve is dependent upon what layer was <u>active</u> at the time you attempted to retrieve the well data from within the **Layer Configuration** window.

<u>**For example**</u>**:** If the active layer within the **Layer Configuration** window, at the time of the retrieval, was a Curve layer. Then, the only well data you would be able to retrieve from another well in the database, via the UWI... **button**, would be **Curve** layer data.

Foreground Color: black This field will change the color of individual items with a fill pattern, such as Grain Size, Carbonate Texture, and Porosity Grade and MDT Data Layers

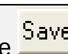
(**Correlational Module only)**, This field allows you to offset a layer by typing the depth you want to offset the layer by into the **Depth Offset** field.

<u>Note</u>: A <u>positive</u> (+) number will move the layer **DOWN** the striplog, while a <u>negative</u> (-) number will move the layer **UP** the striplog.



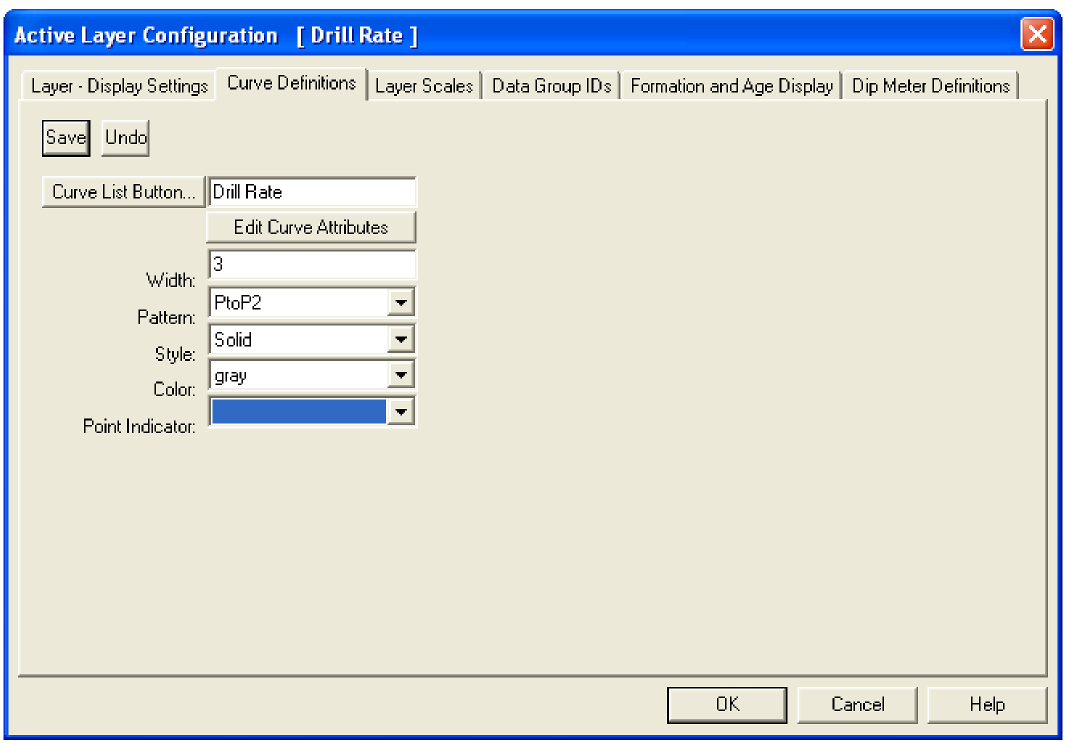
The **<u>Every Field</u>** indicates the frequency (at either 1:240 or 5") at which the curve scale will be indicated for that curve layer on the log. If all curve layers on a track have this same frequency and start depth they will be staggered according to the scales on the track header for that track. The **<u>Start At field</u>** indicates where the first scale for the curve will be placed and then it will add whatever is in the Every field and place the curve scale for that curve on the layer. There will be no curve scale it there is no data over that particular interval on the log.
Example. Every field 50, Start at field 250. You will have a scale placed on the log for that curve layer at 250, 300, 350, 400 etc.

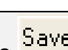
Note: If the **Start at** and **Every** fields are **Blank** the default for the scale placement will be at the top of the screen or the top of every printed page. **But** they will only show if the Curve layer is the active layer on the track at the time of printing or viewing regardless of if the Scale on non-active layers is checked.

Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the  **button or press ALT-S**.

Curve Definitions Tab

This tab in the layer configuration window allows the user to change the curve attributes for each individual curve layer. An example is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the  **button or press ALT-S**.

The Curve List Button... **button** in the Curve Definitions tab of the Layer Configuration window activates a list of the curves associated with the active layers well. These Curves have been created through the Add Curve window when new Curve layers have been added to a log or when a new log has been started. The user has the ability to show any Curve and its values that has been added to the database as long as the data type for the layer is Curve.

The Edit Curve Attributes **button** activates the Digital Curve window and the user can edit the curve attributes as well as get at a secondary window to edit or view the curve scales. There are three ways to change the Curve Attributes. One is through the Layer Configuration window and the other is in the Well Window and is located under the Edit pull down menu. The last way is to right click on a curve layer and select Edit Curve from the pop out menu selection.

The **Curve** Field between the Curve and Curves Button shows the curve that is being displayed on that particular curve layer.

The **Width** Field indicates the width of the curve in pixels. To change, click in the Width field and typing in a new curve width (Values [1-9]).

The **Pattern** Field indicates the line pattern associated with the curve. The user has five (5) patterns to choose from.

PtoP	point to point curve (stop curve at null values)
PtoP2	point to point curve (disregard null values [continuous curve])
Box	histogram or box curve (stop curve at null values)
Box2	histogram or box curve (disregard null values [continuous curve])
Track Fill	fills track with color determined in the pgeology32.ini
Histogram	draws a colored histogram the width of the line width from the data point back to the lowest value track edge.
Points Only	shows only the data points and defaults to circles if nothing defined in the point indicator portion of curve definitions

The **Style** Field indicates the line style associated with the curve. The user has five (5) styles to choose from. They are Solid, Dash, Dot, Dash Dot, and Dash Dot Dot. This field can be changed by clicking on the style field and selecting a new style from the drop down list.

The **Color** Field indicates the line color associated with the curve. The user has a lot of curve colors to choose from. This field can be changed by clicking on the style field and selecting a new style from the drop down list

The **Point Indicator** Field indicates if the data points for the curve selected will be marked with some kind of indicator demonstrating where the actual curve data points are that make up the curve representation. The user has a lot of curve point indicators to choose from. This field can be changed by clicking on the style field and selecting a new point indicator or none from the drop down list.

Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

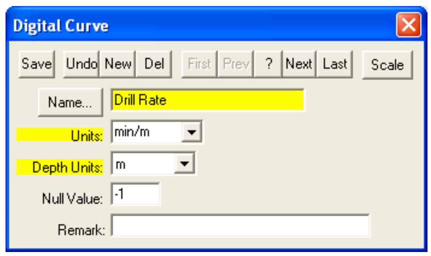
How to select a different Curve to display on a Curve layer

1. **Click** on the **track** containing the Curve layer to make the track active (Highlighted in Green).
2. **Click** on the **Layer Selection List** located on the Selection Bar (top left corner) and ***select*** the desired ***Curve*** layer contained within the currently active track that you wish to edit or make changes to.
3. **Click** on the **Edit pull down menu** and **select Layer Configuration or click** on the **Layer Configuration button** on the Toolbar to activate the Layer Configuration window **or right click** on the layer and **select Edit options** and then **Edit Layer** from the pop out menus.
4. **Click** on the **Curve Definitions tab**
5. **Click** on the Curve List Button... **button**. This will activate a list of all the Curves that have been created for this well.
6. Select the Curve you wish to display on this layer by **double clicking** on the desired **Curve**. If selected the Curve Name will show in the field beside the Curve List Button... button.
7. **Click** on the Save **button or press ALT-*S***, when you are finished.

8. A system message will appear telling the user *"Record saved successfully. Do you wish to Exit?"* **Click** on the Yes **button** to exit the window and view your changes.

How to change the Curve Attributes (Curve and Units, Null Value and Remarks)

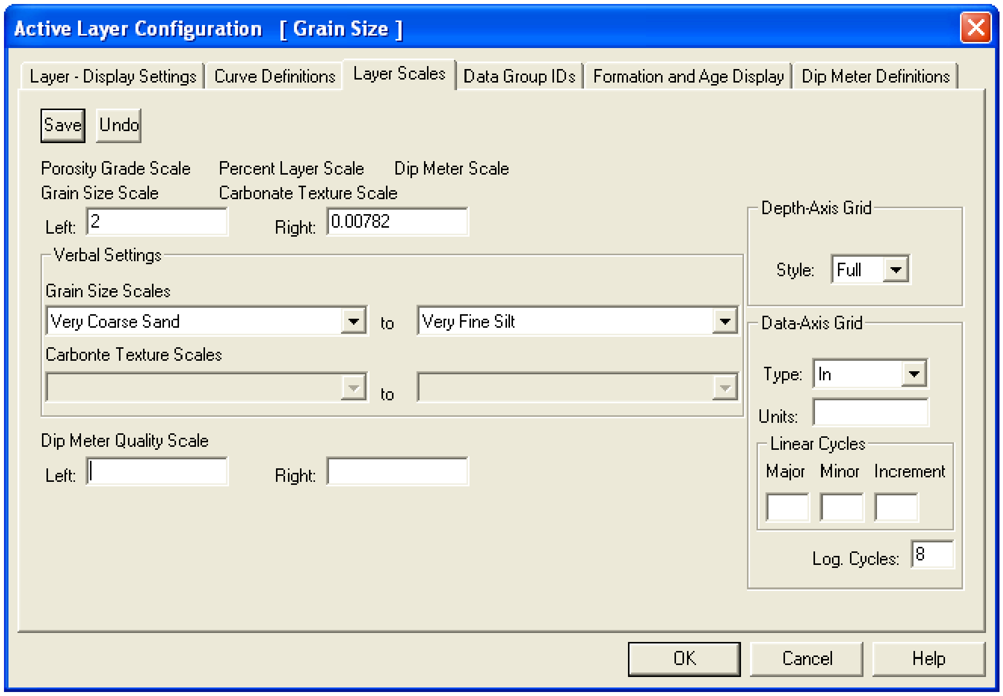
1. **Click** once on the **track** containing the Curve layer to make the track active (Highlighted in Green).
2. **Click** on the **Layer Selection List** located on the Selection Bar (top left corner) and **select** the desired **Curve** layer contained within the currently active track that you wish to edit or make changes to.
3. **Right Click** on the Layer and select **Edit Options** and then **click** on the **Edit Layer** selection or **click** on **Edit pull down menu** and **select Layer Configuration or click** on the **Layer Configuration button** on the Toolbar to activate the Layer Configuration window or **Select** the **Edit Curve** selection.
4. **Click** on the **Curve Definitions Tab**
5. **Click** on the Edit Curve Attributes **button**. This will activate **Digital Curve** window:

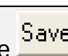


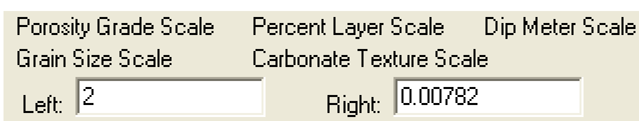
6. The Default Curve name will be the one in the Layer Window but the user can access any curve associate with the active well. The user can **click** on the Name... **button** to see a list of the curves associated with the primary well.
7. You can now rename, or **type** in **new units**, change the **null value**, or add/change the **remarks**.
8. **Click** on the Save **button or press ALT-S.** The user can also change the curve scales by clicking on the Curve Scales button and editing the curve scales here, and then, **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Layer Scales Tab

This tab in the layer configuration window allows the user to change the scale on non curve layers as well as curve or layer attributes that utilize grid attributes for each individual layer. The six data layer types that would utilize this tab would be all curves, Grain Size, Carbonate texture, Porosity Grade, Percent and Dip meter layers. An example of a grain size layer is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the  **button or press ALT-S**.



Grain Size, Carbonate texture, Porosity Grade, Percent and Dip meter layers Left and Right scale fields.
These two fields are used to define the scales for the layers defined above. Any other scales are handled by the digital curve attributes and scales The Grain size and Carbonate Texture scales can also be defined from the verbal setting selector. On the horizontal log the left scale is the bottom and the right scale is the top.

This is an easy way to set your grain size scale for either the Grains Size or Grain size matrix layers. When this verbal selector is utilized it will automatically set up the natural log cycles for you.

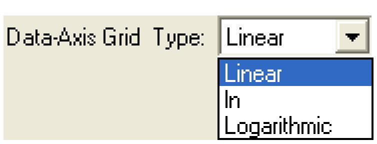
This is an easy way to set your Carbonate texture scale for either the Carbonate Texture or Carbonate Texture matrix layers. When this verbal selector is utilized it will automatically set up the linear cycles for you.

This is the only way to reset the Dip Meter Quality Scale range is by utilizing this feature. The default is 0 to 1. This would depend on the data that has been imported or input manually through our report window. Quality ranges would either be 0 to 1 or 0 to 100 depending on the vendor.

The **Depth-Axis** grid represents the **X-axis** on the log (Horizontal lines on Power*Log/Core or Vertical Lines on Power*Curve). You can edit the **Depth Axis** grid or Frequency of Depth Lines and Depth Track Numbers in the **Log Configuration** window. This is located in the Edit Pull Down menu

Style - Select from ***Full*** or ***Ruler*** styles for your grid lines. A Full style goes across the entire width of the layer while a Ruler style only goes partially across the layer

The **Data-Axis** grid represents the **Y-axis** on the log (Vertical lines on Power*Log/Core or Horizontal Lines on Power*Curve).

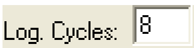


Data Axis Grid Type - Select from ***Logarithmic, Linear***, and ***Natural (LN)*** grid types or lines. This LN type (Natural log Base 2) can only be used with the Grain Size or Grain Size Matrix Layer.

If you choose Logarithmic or LN you must fill in the number of Log Cycles. If you choose Linear you must fill in the Linear cycles or grid pattern you wish to use on this layer.

The **Units field** is used to display the units used in the layer header for the Grain Size, Carbonate texture, Porosity Grade, Percent and Dip meter layers.

Linear Cycle Fields - Alters how the grid lines are displayed on a layer. You can set the occurrence of major divisions (lines) on a layer and minor divisions (lines) as well as the number of increments divisions (lines) on a particular layer. In this case the layer will be divided in two with a major line, divided into 5 with minor lines and divided in 10 with increment lines. The grid lines styles and thickness are determined in the Log Configuration window located under the Edit pull down menu. The Scale markings numbers are dictated in this portion of the window as well. The Minor linear cycles takes precedent so in this case you would have 5 markings on the scale. The frequency of the scale is determined in the Display options tab.



Log Cycles – The number of Log cycles is directly dependent on the Scale of the curve that is represented on this layer. The system does not mandate any values and will attempt to display the curve scale with the Log Cycles entered into this field but there is no guarantee as to the correctness of the curve scale represented in the Curve Header Scale. The frequency of the scale is determined in the Display options tab.

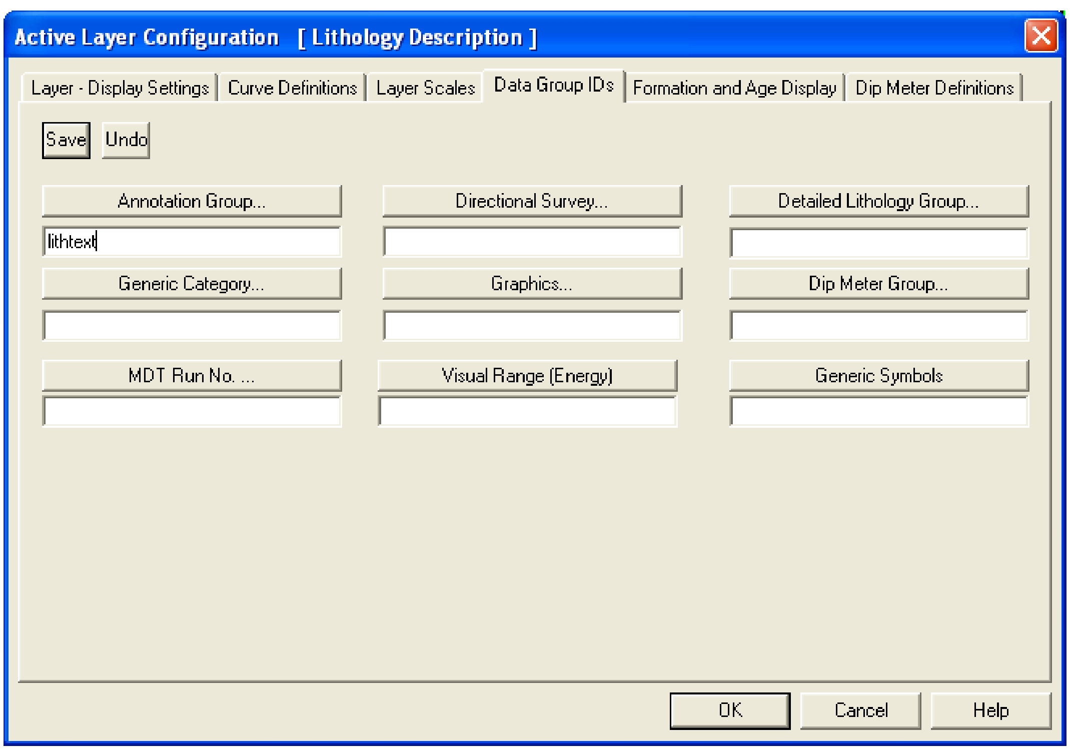
Remember that for ***Logarithmic*** scales, the left and right values must be values according to the Log Based 10 (0.1, 1.0, 10.0, 100.0 etc). Therefore, if your left and right values are 0.001 and 100 respectively, then the ***Log Cycle*** field should have a value of ***5*** cycles. Moreover, if the left and right values are 1.0 and 1000 respectively, then the ***Log Cycle*** field should have a value of ***3*** cycles.

Grain Size LN (Natural Log) cycles are best determined utilizing the grain size Verbal setting selector. Otherwise to determine the left/right values and grid cycle, you should refer to the grain chart that is produced on the log legend. This will help you find out the upper (**coarse**) and lower (**fine**) limits of your **Grain Sizes**.

<u>For example</u>*:* If the lower limit is ***Coarse Silt*** at 0.03125mm and the upper limit is ***Very Coarse Sand*** at 2mm, then you should have 6 Log Cycles for the grid (on a natural log scale) and also have a LN as a Data Axis Grid Type.

Data Group ID's Tab

This tab in the layer configuration window allows the user to change the specific data groups available for each Layer type. An example is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

Annotation Group Button

The Annotation Group... **button** allows you to associate an existing Annotation Group with the Annotation layer active within the **Layer Configuration** window at the time. Each **Annotation Group** has a unique **Group ID** as they are assigned when a new log is created for a well. So for every annotation layer that is associated with a well there is a new Annotation group created. Accordingly, if you have multiple **Annotation** layers associated with a single well, then you will have to assign a unique **Group ID** number to each of the **Annotation** layers within each of their respective **Layer Configuration** windows.
For example: "***Comments***" is an Annotation layer, that when a well/log was first created was assigned an Annotation Group ID of **Comments1** with its own **Layer Configuration** window. Meanwhile, "***Remarks***" is another Annotation layer in that same well/log creation, that has been assigned Annotation Group ID **Remarks1** within its own **Layer Configuration** window. If another log is created for the same well that has both a Remarks and Comments Layers they each will be assigned Group ID's of **Remarks2** and **Comments2**. The new log will not show the same comments as the original log. You can show any group of annotations on any annotation layer and this is shown below.

Generic Category Button

You can use the Generic Category... **Generic Category button** only when the Data Type field displays, "Generic Category.". The user can use this button to associate a Generic Category Group and its associated data with a layer. Generic Category Groups are listed by their Name.

MDT Run Number Button

You can use the MDT Run No. ... **MDT Run Number button** only when the Data Type field displays, "MDT."
The user can use this button to associate a MDT Run Group Numbers and its associated data with a layer. A layer can be associated with only one MDT Run Number Group and its associated data. MDT's are listed by their Run Number and can be selected by utilizing the drop box and selecting the according number from the List. Then **click** on the OK button.

Directional Survey Button

You can use the Directional Survey... **Directional Survey button** only when the Data Type field displays, "Directional Survey." The user can use this button to associate a Directional Survey Group and its associated points with a layer Directional Survey Groups are listed by their Start Date and their Survey Group ID. The default for any Directional Survey Layer is for it to display the Survey Group ID 1and its associated points.

Graphics Button

The Graphics... **Graphics Groups button** is used, when a **Graphics** layer is the currently active layer within the **Layer Configuration** window. The **Graphics Group** button allows you to associate an existing **Graphics Group** to the currently active layer. Graphic Groups are listed by their Group Number / Name and can be selected by utilizing the drop box and selecting the according number from the List. Then **click** on the OK button.

Detailed Lithology Group Button

The Detailed Lithology Group... **Detailed Lithology Group button** is used, when a **Detailed Lithology** layer is the currently active layer within the **Layer Configuration** window. The **Detailed Lithology Group** button allows you to associate an existing **Detailed Lithology Group** to the currently active layer.

Each **Detailed Lithology Layer** added when creating new logs for a well or adding a Detailed Lithology layer/track to a log is assigned a unique **Detailed Lithology Group ID**. So for every Detailed Lithology layer that is associated with a well there is a new Detailed Lithology group created. Accordingly, if you have multiple **Detailed Lithology** layers associated with a single well, then the system will have to assign a unique **Group ID** number to each of the **Detailed Lithology** layers within each of their respective **Layer Configuration** windows.
For example: The First Detailed Lithology layer added to a well/log is assigned a Detailed Lithology Group ID of **Detlith1** with its own **Layer Configuration** window. Meanwhile, if another Detailed Lithology layer is added in a new log creation that will be assigned another Detailed Lithology Group ID **Detlith2.** Etc. Etc. Etc.

Dip Meter Group Button

The [Dip Meter Group...] **Dip Meter Group button** is used, when a Dip Meter layer is the currently active layer within the **Layer Configuration** window. The **Dip Meter Group** button allows you to associate an existing **Dip Meter Group** to the currently active layer. Dip Meter Groups are listed by their Group Name and can be selected by utilizing the drop box and selecting the according name from the List. Then **click** on the [OK] button.

Visual Range Button

The [Visual Range (Energy)] **Visual Range Group button** is used, when a Visual Range layer is the currently active layer within the **Layer Configuration** window. The **Visual range Group** button allows you to associate an existing **Visual range Group** to the currently active layer. Dip **Visual range** are listed by their Group Name and can be selected by utilizing the drop box and selecting the according name from the List. Then **click** on the [OK] button.

Generic Symbols Button

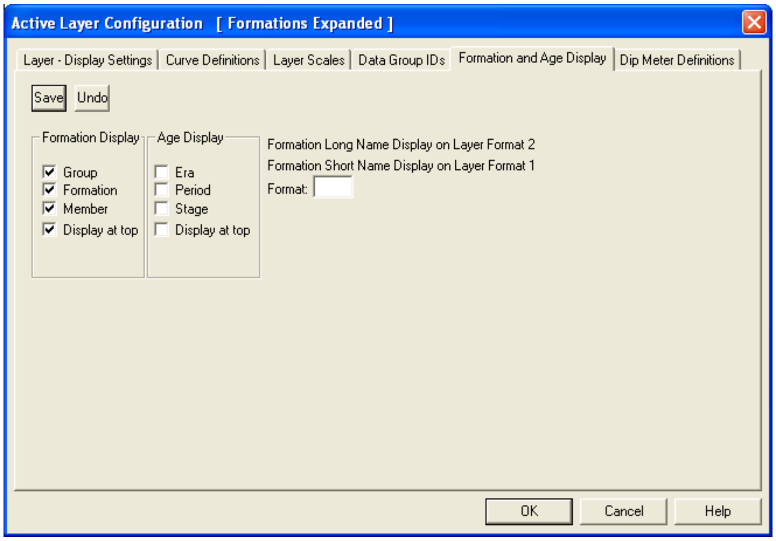
The [Generic Symbols] **Generic Symbols Group button** is used, when a Generic Symbol layer is the currently active layer within the **Layer Configuration** window. The **Generic Symbols Group** button allows you to associate an existing **Generic Symbols Group** to the currently active layer. The **Generic Symbols Group** are listed by their Group Name and can be selected by utilizing the drop box and selecting the according name from the List. Then **click** on the [OK] button.

How to select a different Group to display on a layer

1. **Click** on the **track** containing a Multiple Group layer to make the track active (Highlighted in Green).
2. **Click** on the **Edit pull down menu** and **select Layer Configuration or click** on the **Layer Configuration button** on the Toolbar to activate the Layer Configuration window.
3. **Click** on the **Data Group ID's Tab**.
4. **Click** on the appropriate **Group button**. This will activate a list of all the groups that have been created for this well.
5. Select the Group you wish to display on this layer by **double clicking** on the desired **Group Name**. If selected the Group Name will show in the field below the Group button in the Layer Configuration window.
6. **Click** on the [Save] **button or press ALT-S**, when you are finished.
7. A system message will appear telling the user "Record saved successfully. Do you wish to Exit?" **Click** on the [Yes] **button** to exit the window and view your changes.

Formation Age Display Tab

This tab in the layer configuration window allows the user to change the display of the Formation in either the Long / Short / or Extended as well as the Ages layers.

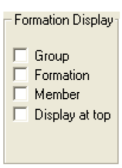


Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the 

button or press ALT-S.

Formation Display

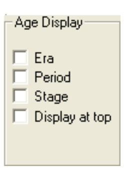
This portion of the window is only applicable to the Expanded Formation Track / Layer that displays the Group, Formation and Member information that is entered into the Formation Report.



Group – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Group information will be displayed on the Formation Track / Layer.
Formation – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Formation information will be displayed on the Formation Track / Layer.
Member – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Member information will be displayed on the Formation Track / Layer.
Display at top – If this box is checked, indicates that the Group / Formation / Member information will be displayed at the top of the interval instead of the middle of the interval.

Age Display

This portion of the window is only applicable to the Ages Track / Layer that displays the Era, Period/series and stage information that is entered into the Formation Report.

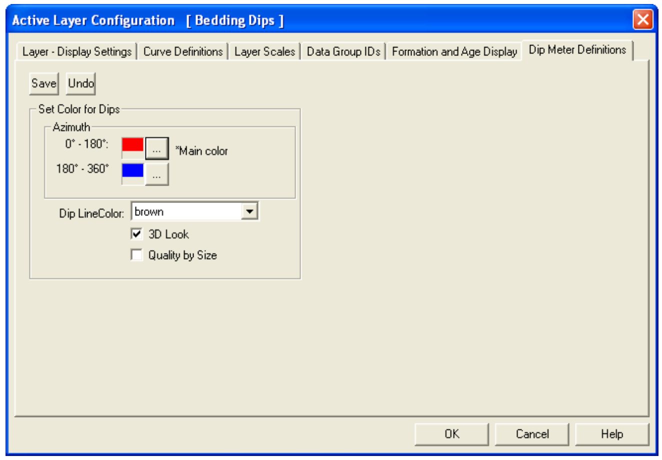


Era – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Era information will be displayed on the Ages Track / Layer.
Period – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Period information will be displayed on the Ages Track / Layer.
Stage – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Stage information will be displayed on the Ages Track / Layer.
Display at top – If this box is checked, indicates that the Era / Period / Stage information will be displayed at the top of the interval instead of the middle of the interval.

The **Format field** indicates which format you wish to display the top on the log (either short name [1] or long name [2])
Format 1 indicates the Formation top with a line and its appropriate **Depth** above the line and a short form for **Age** and **Formation below the line.**
Format 2 displays the **Member**/**Formation** (in long form), along with **True Vertical Depth** (**TVD**) and **Sub Sea Depth (SSL)** and is typically used in the Formation Long Name Layer.

Dip Meter Definitions Tab

This tab in the layer configuration window allows the user to change the display of the Dip Meter Data on the Dip meter and hole dip layers. An example is shown below:



Set Color for Dips Azimuth selection allows the user to make a color differential between dips from 0-180°and dip azimuths from 180- 360°

To change a color **Click** on the ... **button** and this will activate the Color Picker. **Click** on a **color** or Use custom defined color picker and then **click** on the OK **button**.

Dip LineColor: brown **Dip Line Color** selector allows the user to define the line and circle color of the dip data so that you can utilize multiple groups on a single track and you can differentiate between them.

3D Look **3D Look** check box when activated will give the dot or indicator a 3 Dimensional look rather than a flat look.

Quality by Size **Quality by Size** check box when activated will allow the user to identify the quality of the dip reading by size rather than a color fill lood. Examples of both are shown below.

Quality by Size checked

Quality by Size not checked

Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

Field Restriction Table:

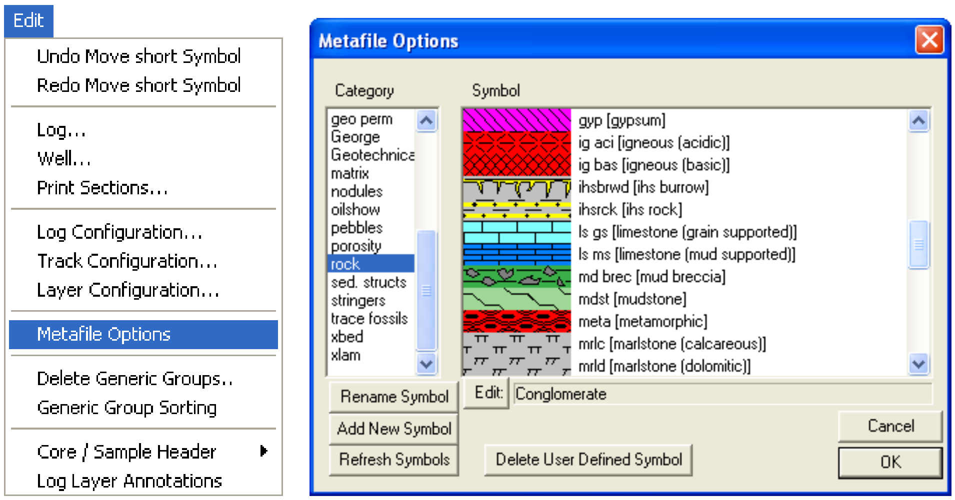
Name	30	Character	Mandatory
Sequence	5.0	Numeric	Optional
Remarks	100	Character	Optional
UWI	20	Character	Optional
Annotation Group	30	Character	Optional
Directional Survey	30	Character	Optional
Depth Grid Style	5	Character	Optional
Data Axis Type	15	Character	Optional
Data Axis Style	5	Character	Optional
Log Cycles	5.0	Numeric	Optional
Major Linear Cycles	5.0	Numeric	Optional
Minor Linear Cycles	5.0	Numeric	Optional
Increment Cycles	5.0	Numeric	Optional
Scale Left	10.5	Numeric	Optional
Scale Right	10.5	Numeric	Optional
Scale Units	10.5	Numeric	Optional
Curve ID	30	Character	Optional
Curve Line Width	1.2	Numeric	Optional
Curve Line Pattern	5	Character	Optional
Curve Line Style	10	Character	Optional
Depth Offset	5.2	Numeric	Optional

Metafile Options

This option allows the users to edit any existing metafiles or symbols within the PowerSuite applications (i.e. rock types, accessories, structures etc.) or add new Metafiles or symbols to our lists for the more sophisticated users.

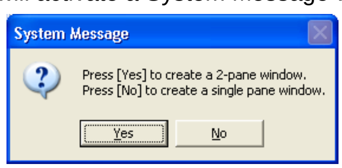
How to Edit an Existing Metafile

1. **Click** on the **Metafile Options** selection located under the **Edit pull down menu**. This will activate the Metafile Options window.

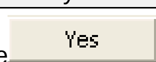


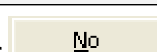
2. **Click** on the **category** of the symbol you wish to modify or edit. This will activate a list of existing symbols shown on the right hand side of the window.
3. **Click** on the **Symbol** you wish to edit. It will become highlighted and fill in the edit field.
4. **Click** on the 

button. This will activate a System Message window shown below.



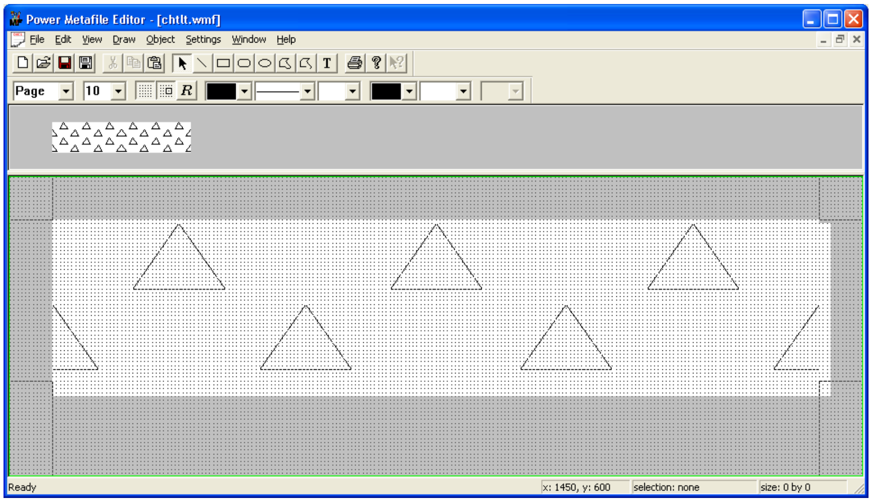
Note: A (two) **2- pane window** shows the metafile in regular and expanded views. A **single pane** window shows the metafile in an expanded view only.

5. **Click** on either the 

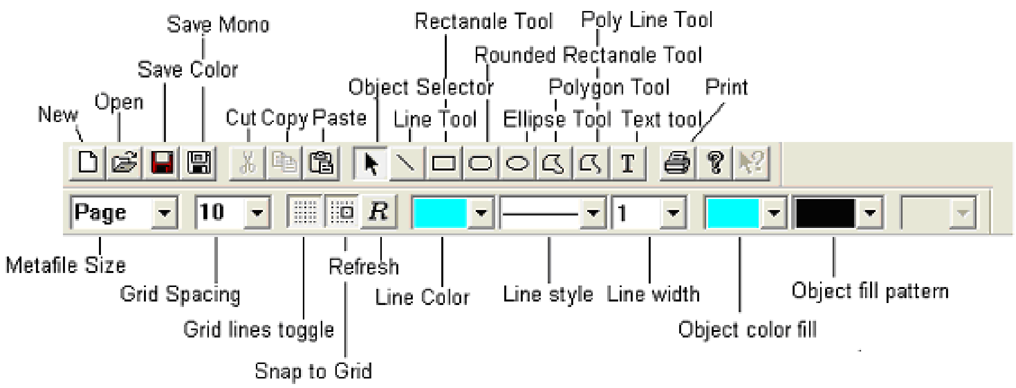
or 

button and the Power Metafile Editor will open with the selected symbol in the window that you had selected.

Note: The Rock Type window shown below is a two pane window and is different from any other Metafile window. The upper pane shows the actual screen or print size. The difference with the rock type window is that the upper pane shows the metafiles repeatability. The upper pane is placing the same metafile staked on top of each other and left to right attempting to show the user the metafiles repeatability. This is essential when creating or editing rock types because they should be repeatable so when printed they will appear seamless when drawn on the screen or printouts when the region is larger than the metafile.



The toolbar functionality's are defined in the illustration shown below.

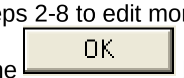


Note: Lines on sedimentary structures / trace fossils will change color if line width is 1.

6. The lower or expanded portion of the window is the editable portion. With the mouse you can select a line, rectangle, polyline or other shape tool and draw in this window. You can move the lines or shapes by dragging the shapes, copy or delete by using the toolbar or keyboard keys or buttons. Use the drop down menus or the toolbars to select the different options the user can utilize.

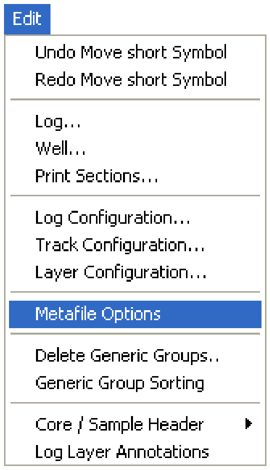
7. Once the metafile has been modified to your specifications the user must **click** on the  **Save button** on the toolbar or **click** on the **File** pull down menu and select **Save**.

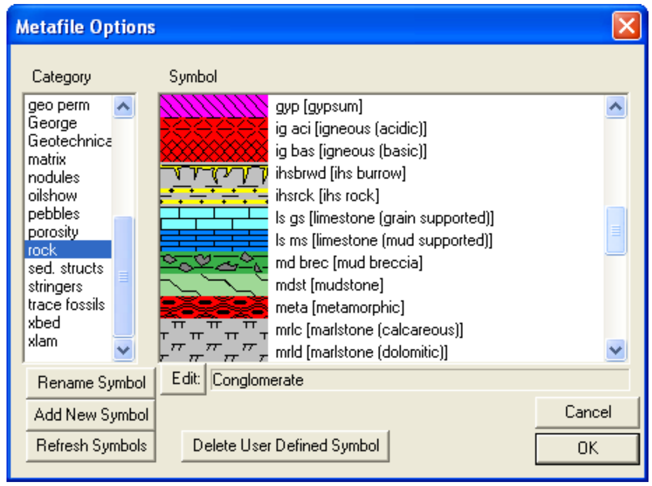
Note: There are two save choices. The Save Mono is done automatically for you when you save the metafile. In other words the color metafiles are converted to black and white metafiles and saved to the Powersuite/symbolm folder. These mono metafiles come in useful when printing to a black and white printer. The color symbols are saved to Powersuite/symbol folder.

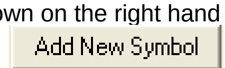
8. Exit the Power Metafile Editor by **clicking on the X** in the upper right hand corner of the window or **click** on the **Exit selection** located under the **File pull down menu**. This will put the user back into the PowerSuite Application Metafile options window.
9. Repeat steps 2-8 to edit more existing metafiles.
10. **Click** on the 

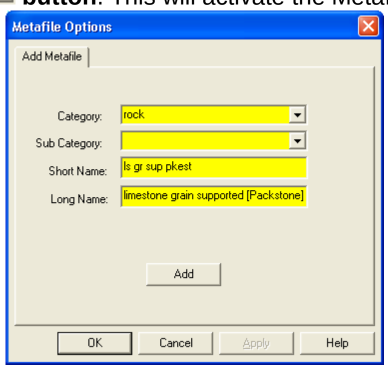
button in the Metafile Options window to exit this window. All the changes will be reflected in the Choice lists, printed legends and on the screen and printed metafiles.

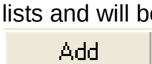
How to Add a New Metafile



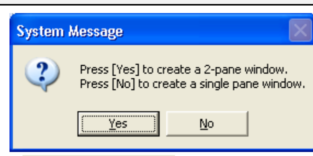


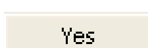
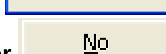
1. **Click** on the **Metafile Options** selection located under the **Edit pull down menu**. This will activate the Metafile Options window shown below.
2. **Click** on the **category** of the symbol you wish to add a new symbol to. This will activate a list of existing symbols shown on the right hand side of the window.
3. **Click** on the  **button**. This will activate the Metafile Options (Add Metafile) window.



4. If you have selected the **components category** the user must **select** the appropriate accessory, fossil, grain or texture **Sub Category** drop box.
5. Type in a **short name** and a **long name** into their respective fields for your new metafile. These will appear in the choice lists and will be exported in the ASCII Lithology export file.
6. **Click** on the  **button**. This will activate a System Message window if you have selected any other category other than rock.

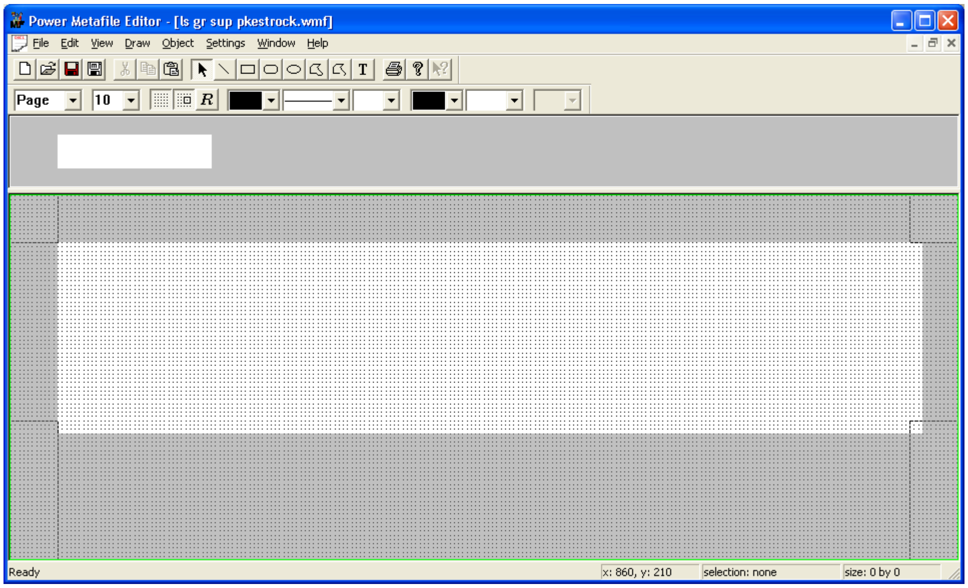
Note: A (two) **2-pane window** shows the metafile in regular and expanded views. A **single pane** window shows the metafile in an expanded view only.



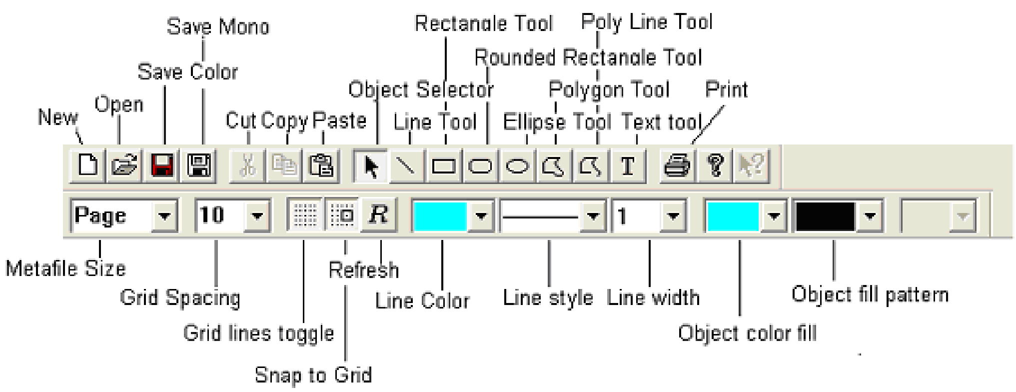
7. **Click** on either the  **or**  **button** and the Metafile editor will open a blank Power Metafile Editor window with a file name that is a combined short name and category name.

Note: The Rock Type window shown below is different to any other Metafile window. The upper pane shows the actual screen or print size The difference with the rock type window is that the upper pane shows the metafiles repeatability. The upper pane is placing the same metafile staked on top of each other and left to right attempting to show the user the metafiles repeatability. This is essential when creating or editing rock types because they should be

repeatable so when printed they will appear seamless when drawn on the screen or printouts when the region is larger than the metafile.

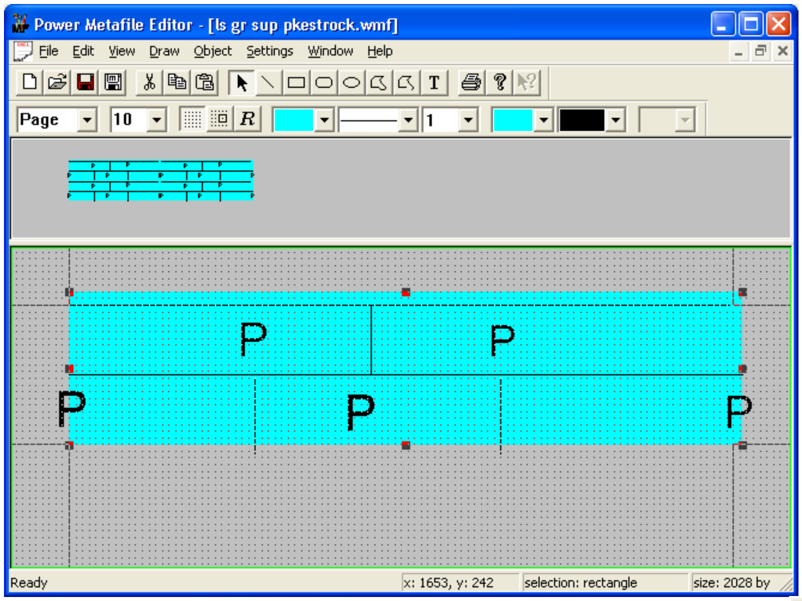


The toolbar functionality's are defined in the illustration shown below.



8. The lower or expanded portion of the window is the editable portion. With the mouse you can select a line, rectangle, polyline or other shape tool and draw in this window. You can move the lines or shapes by dragging the shapes, copy or delete by using the toolbar or keyboard keys or buttons. Use the drop down menus or the toolbars to select the different options the user can utilize.

Note: The Polyline and Polygon drawing tools require a double **click** to finish the action. The text tool font size is determined by the height of the field. Once an action is performed the default reaction is to place the emphasis back on the select tool.

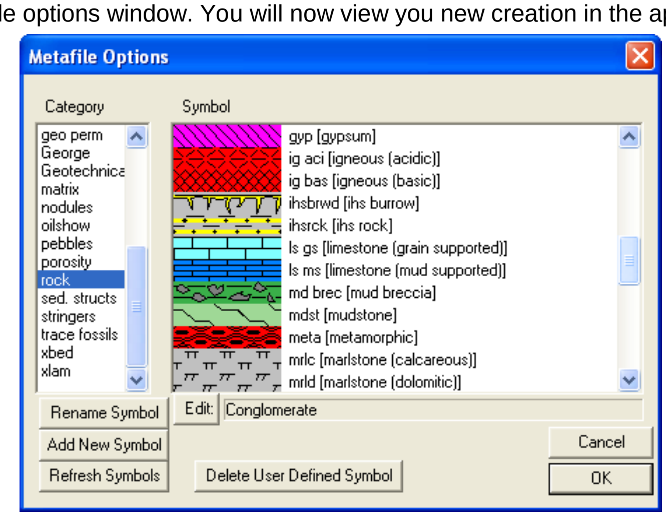


9. Once the metafile has been designed to your specifications the user must **click** on the 

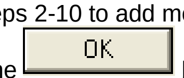
button on the toolbar or **click** on the file pull down menu and select **Save**.

Note: There are two save choices. The Save Mono is done automatically for you when you save the metafile. In other words the color metafiles are converted to black and white metafiles and saved to the Powersuite/symbolm folder. These mono metafiles come in useful when printing to a black and white printer. The color symbols are saved to Powersuite/symbol folder.

10. Exit the Power Metafile Editor by **clicking on the X** in the upper right hand corner of the window or **click** on the **Exit selection** located under the **File pull down menu**. This will put the user back into the PowerSuite Application Metafile options window. You will now view you new creation in the appropriate list.



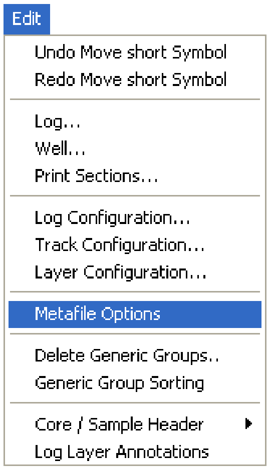
11. Repeat steps 2-10 to add more metafiles.

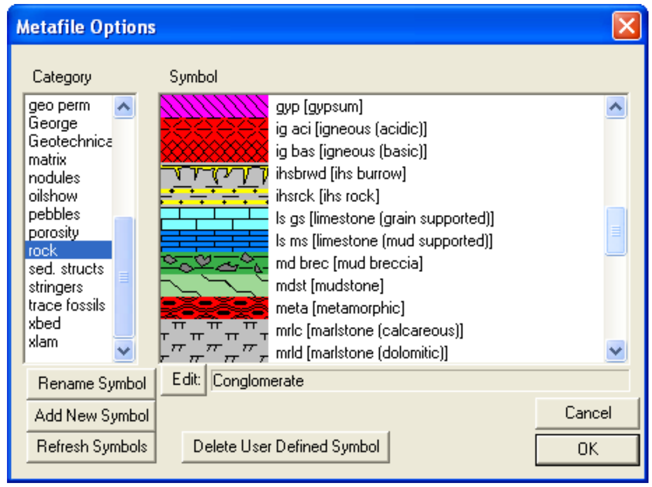
12. **Click** on the 

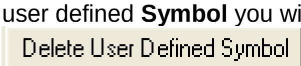
button in the Metafile Options window to exit this window. All the changes will be reflected in the Choice lists, printed dynamic legends and will be available to draw with on your existing, new or old logs.

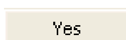
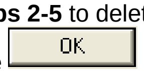
How to Delete an Added or User defined Metafile

We will not allow the user to delete a system metafile. You are able to modify or edit a system metafile but the deletions of these symbols are not allowed.



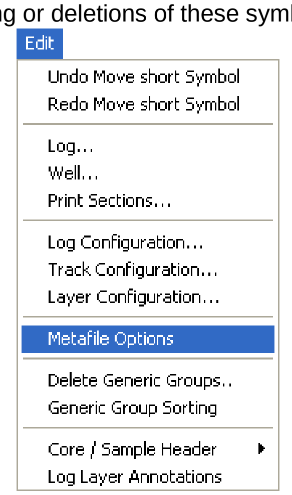


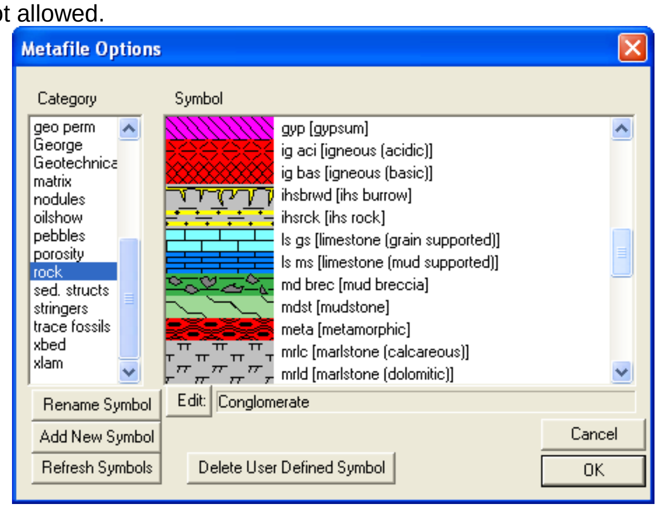
1. **Click** on the **Metafile Options** selection located under the **Edit pull down menu**. This will activate the Metafile Options window shown below.
2. **Click** on the **category** of the symbol you wish to delete. This will activate a list of existing symbols shown on the right hand side of the window.
3. **Click** on the user defined **Symbol** you wish to delete and it will become highlighted and fill in the edit field.
4. **Click** on the  **button**. This will activate a System Message window.

5. **Click** on either the  **button** and the Metafile will be deleted.
6. **Repeat steps 2-5** to delete more users defined existing metafiles.
7. **Click** on the  **button** in the Metafile Options window to exit this window. All the changes will be reflected in the Choice lists, printed legends and on the screen and printed metafiles.

How to Edit an Existing Name for a User defined Metafile

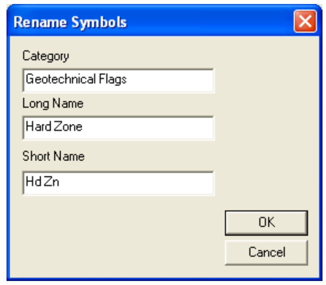
We will not allow the user to rename a system metafile. You are able to modify or edit a system metafile but the renaming or deletions of these symbols are not allowed.



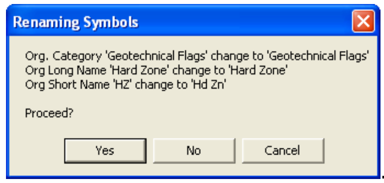


1. **Click** on the **Metafile Options** selection located under the **Edit pull down menu**. This will activate the Metafile Options window shown below.
2. **Click** on the **category** of the symbol you wish to rename. This will activate a list of existing symbols shown on the right hand side of the window.

3. **Click** on the user defined **Symbol** you wish to rename and it will become highlighted and fill in the edit field.
4. **Click** on the Rename Symbol **button**. This will activate the Rename Symbol window.



5. **Click** on either the OK **button** and the Metafile rename confirmation window will appear

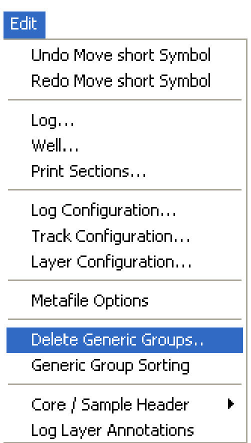


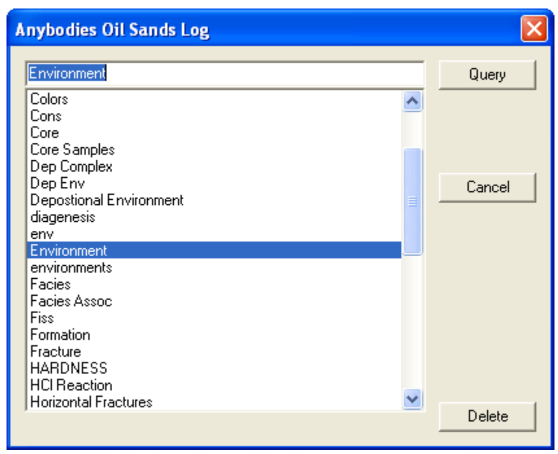
6. **Click** on the Yes **button** to rename the symbol. This action will put you back into the Metafile Options window.

Delete Generic Groups

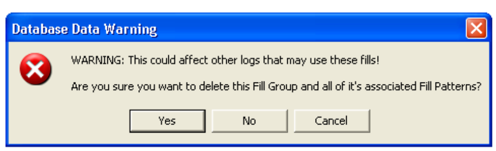
The **Delete Generic Groups** window allows you to delete a generic group.

1. **Click** on the **Delete Generic Groups** selection located under the **Edit pull down menu**. This will activate the **Generic Groups** window shown below.





2. **Click** on the **Generic Group Name** that you wish to delete, and click on the Delete **button**. This will activate the **Database Data Warning** window.



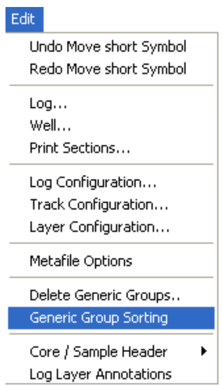
3. **Click** on the Yes **button**, and the Generic Group will be deleted.

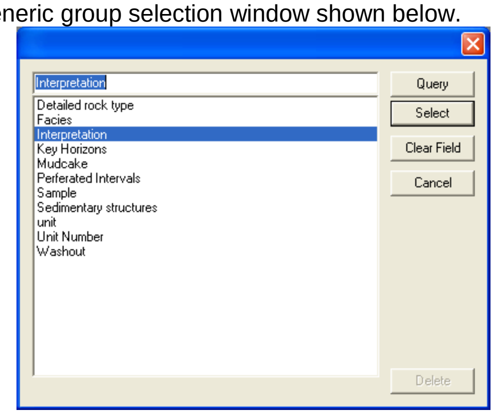
Generic Group Sorting

The **Generic Group Sorting** allows the user to view all the generic groups and order the group list into a format that is sensible to the user rather than our default that would be alphabetically.

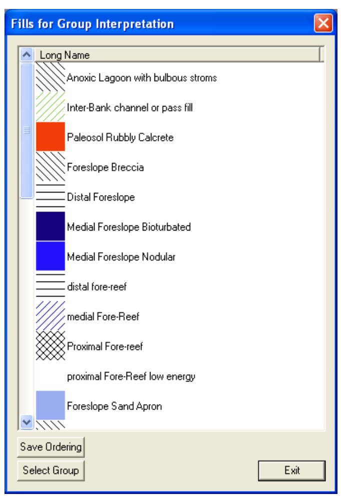
How to sort a Generic Group List

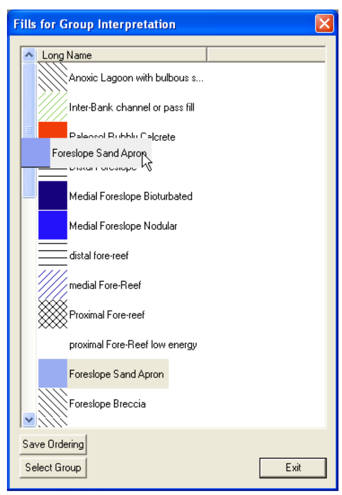
1. **Click** on **Generic Group Sorting**, under the **Edit** menu selection. If any Generic Groups have been added to the Database to activate the generic group selection window shown below.

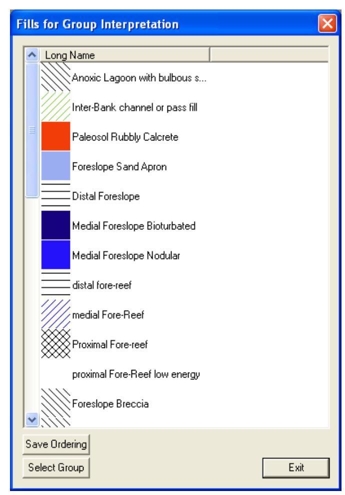




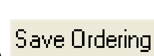
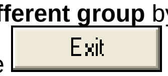
2. **Click** once on the **Group Name** (Interpretation) you wish to resort and then **click** on the  **button or Double Click** on the **Group Name**. This will activate a window that allows you to resort the Fill list as shown below.







Before Move During Move Result of Move

3. **Click and drag** on the **Generic fill** you wish to resort and move it above or below the generic fill you want it beside.
4. Repeat step 3 as many times as you like.
5. Once you have finished **Click** on the  button.
6. The user can either **select a different group** by **clicking** on the  **button** or you can **close this window** by **clicking** on the  **button**.

Core / Sample Header

The **Core / Sample Header** window allows you to edit the information being displayed when the core or Borehole log header is printed. It also allows you to delete the core log header.

Core Log

Well Name: Anybody Oil Sands	Location: Athabaska	Ground / Collar: 321.05 (m)
UWI: Anybody Oil Sands	KB: 328.45 (m)	UTM East: 213.45
Hole ID: Hole Number 45	Core Quality: Good	UTM North: 123.12
Cored Interval: 34 (m) to 120.45 (m)	Logged by: R.W. (Bob) Sephton P.Geol.	Slabbed: Yes
	Date: Feb 1, 2008	

Depth Correction: Good

Remark:
No problems or concerns.
This is the remarks portion of the Core Log header.
It can have as many line of data as you can concieve.
Your imagination is the limation to these remarks.
Core Log Scale 1:96

Core Log Header

Core Log

Well Name: Anybody Oil Sands	Location: Athabaska	Ground / Collar: 321.05 (m)
UWI: Anybody Oil Sands	KB: 328.45 (m)	UTM East: 213.45
Hole ID: Hole Number 45	Core Quality: Good	UTM North: 123.12
Csg Depth (MD): 122.45 (m)	Logged by: R.W. (Bob) Sephton P.Geol.	Slabbed: Yes
Core Point (MD): 34 (m)	Date: Feb 1, 2008	Lab.: Agat Labs
Total Depth (MD): 120.45 (m)	Lic.#: NA	% Calc. Recovery: 89
Rig#: Encore	Lease#: 23145	% Total Recovery: 96

Depth Correction: Good

Remark:
No problems or concerns.
This is the remarks portion of the Core Log header.
It can have as many line of data as you can concieve.
Your imagination is the limation to these remarks.
Core Log Scale 1:96

Alternate Core Log Header

Bore Hole Log

Well Name: Anybody Oil Sands	Location: Athabaska	Ground / Collar: 321.05 (m)
UWI: Anybody Oil Sands	KB: 328.45 (m)	UTM East: 213.45
Hole ID: Hole Number 45	Sample Quality: Good	UTM North: 123.12
Logged Interval: 34 (m) to 120.45 (m)	Logged by: R.W. (Bob) Sephton P.Geol.	
	Date: Feb 1, 2008	

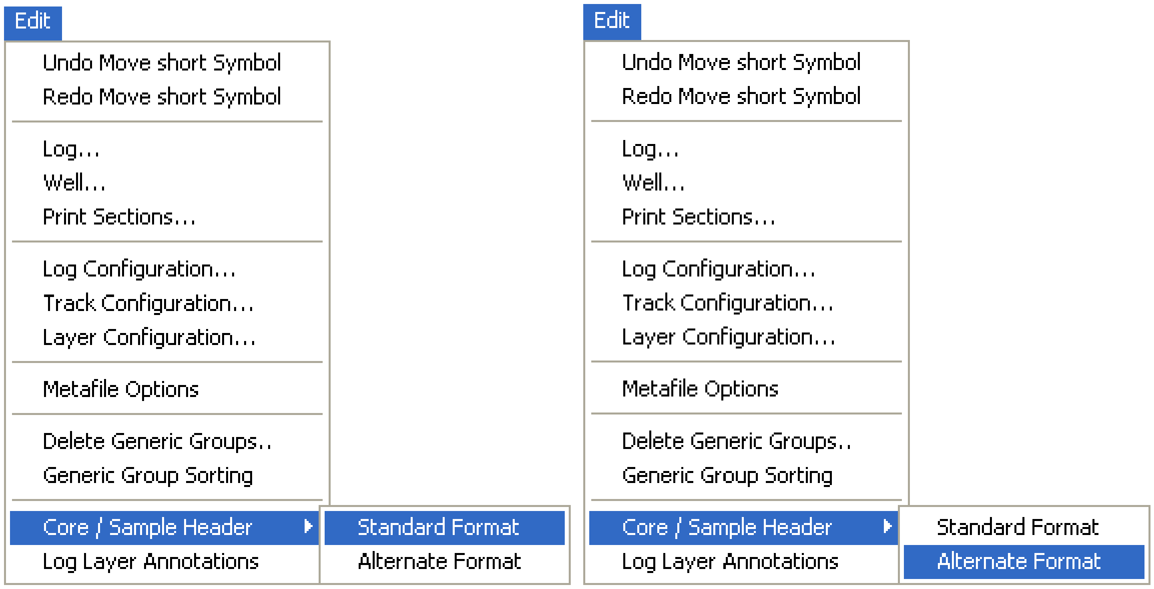
Depth Correction: Good

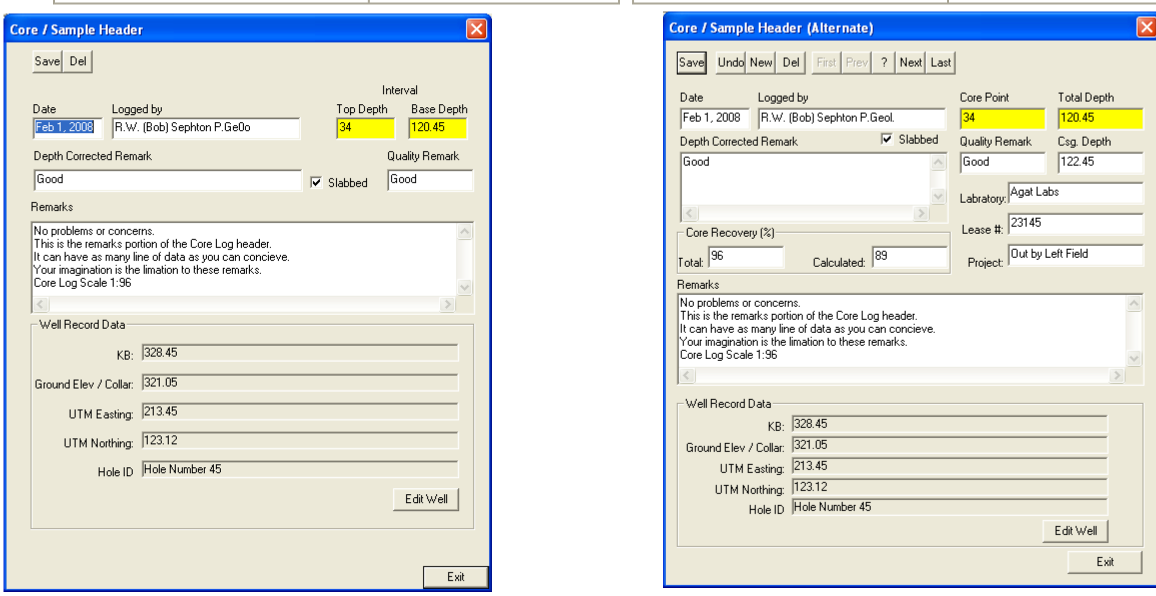
Remark:
No problems or concerns.
This is the remarks portion of the Core Log header.
It can have as many line of data as you can concieve.
Your imagination is the limation to these remarks.
Core Log Scale 1:96

Sample / Borehole Log header

How to Edit a Core / Sample Header

1. **Click** on the **Core / Sample Header** selection located under the **Edit pull down menu** and then either Select Standard Format or Alternate Format.



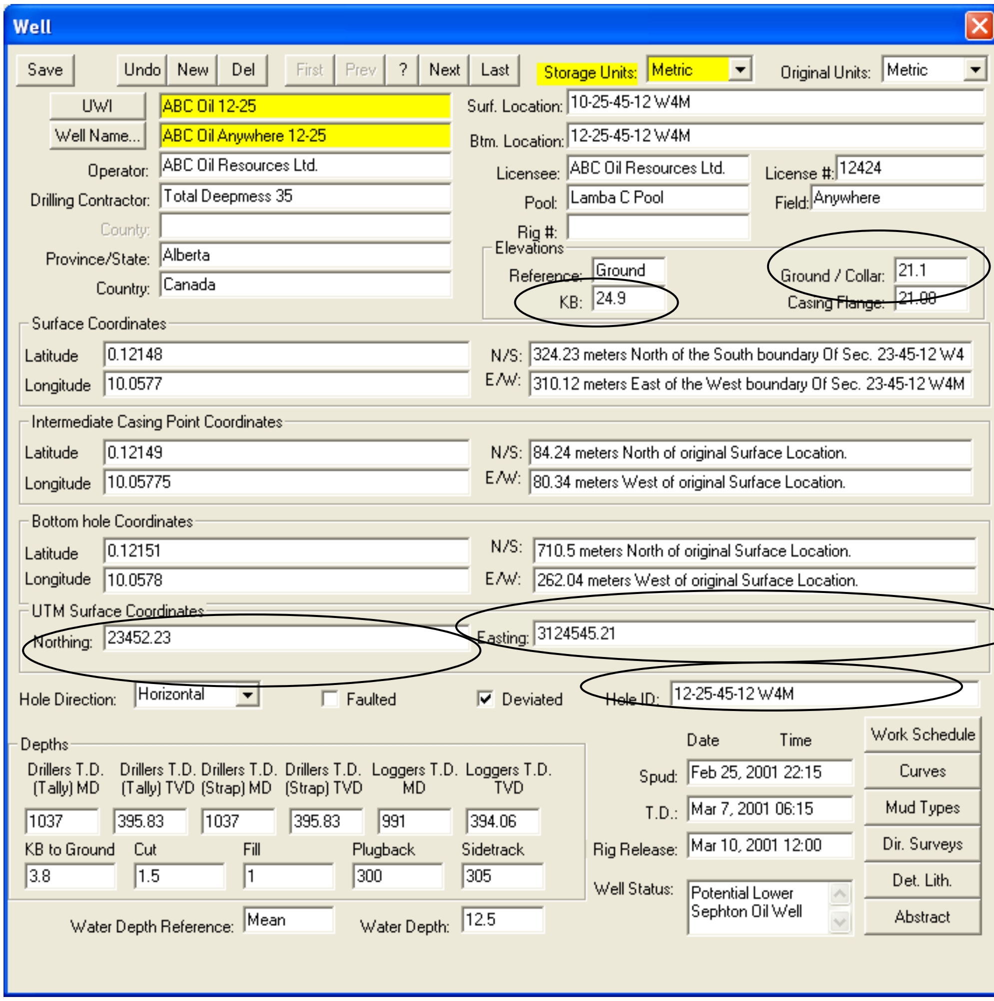


2. In the **Logged by** field, type in the name of the person who the core is logged by.
3. In the **Top Depth** and **Base Depth** fields, type in the Top Depth and Base Depth of the core / sample interval.
4. In the **Depth Corrected Remark** field, type in the remark related to depth change that you wish to appear at the core log header.
5. Activate the **Slabbed** check box ☑, if you wish the core log header to be cut in half. This is not applicable to the Sample Log abbreviated Header.
6. In the **Quality Remark** field, type in the remark related to quality that you wish to appear at the core log header.
7. In the **Remarks** field, type in any other remarks that you wish to appear on the Core Log header.

N.B. The Remarks field is limitless as the Core Header Expands to the appropriate size to accommodate the entire Remarks Field.

Well Record Data portion of the Core / Sample Header window

1. **Click** on the Edit Well **button** to enter KB and Ground Elevation. The **Well** window will be shown.



2. In the **KB** field, enter the KB. In the **Ground / Collar,** enter the ground elevation as well as the UTM coordinates and the Hole ID if you have them.

3. **Click** on the Save **button** or press ALT-S. This will activate the **Core Header** window showing the KB and Ground Elevation that you have just entered.

4. **Click** on the Exit **button**. If the record has been successfully saved, **click** on the appropriate button when prompted with the **Shortcut Options** system window.

How to Delete a Core / Sample Header

1. **Click** on the **Core / Sample Header** selection located under the **Edit pull down menu**. This will activate the **Core / Sample Header** and select the Alternate or standard selections window.

2. **Click** on the Del **button**, and the **Confirmation** window will be shown.

3. **Click** on the Yes **button**, and the **Core Header** will be deleted.

Field Restriction Table:

Date	DATE FORMAT	Default=Current Date	Optional
Logged By	50	Character	Optional

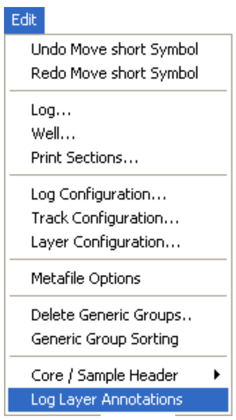
Core Interval Top Depth	5.5	Numeric	Mandatory
Core Interval Bottom Depth	5.5	Numeric	Mandatory
Depth Corrected Remark	20	Character	Optional
Quality Remark	20	Character	Optional
Remark	40,000	Character	Optional

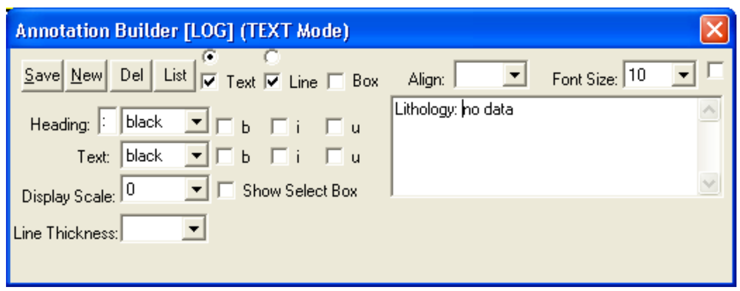
Log Layer Annotations

The **Log Layer Annotation builder** window allows you to add, edit, resize and move an annotation anywhere within the log.

Adding Annotations

1. **Click** on **Log Layer** under the **Edit** menu selection to activate the **Annotation Builder** window.





2. **Click** on the New **button or press ALT-N** to enter a new **Annotation**.

If you wish to select a **Font Size** that is different from the default **Font Size** (set in the **System Options** window, under **Options**), then select a new **Font Size** from the **Font Size** drop box field.

If you wish to modify the **Annotation** further, you can use the **Heading**, **Color**, **Bold**, **Italicize**, and **Underline** fields to modify the appearance of the **Annotation** header and/or text. For example, The **Bold b** check box can be activated to bold the **Annotation** header and/or text, the *Italic* **i** check box can be used to italicize the **Annotation** header and/or text, and the <u>Underline</u> **u** check box can be used to underline the **Annotation** header and/or text. Moreover, the **Annotation** header and/or text may also be assigned different colors selected from the **Color** drop box fields.

Decide how **Power*Log / Core & Curve** will distinguish what portion of the **Annotation** is the header and what portion is the text by inserting a character, most often a colon"**:**", in the **Heading:** field to indicate the separation of the header from the **Annotation** text. This is applicable to every line in the **Annotation** and you can have numerous headers as a result.

<u>**For example**</u>**:** If you used the colon (**:**) displayed in the **Heading:** field by default, as your header and then typed "***Lithology : no data***" in the main text field. The "***Lithology***" would inherit whatever modifications, if any, were made to the **Color**, **Bold**, **Italicize**, and **Underline** fields located to the right of the **Heading:** field, while the "***no data***" would inherit whatever modifications, if any, were made to the **Color**, **Bold**, **Italicize**, and **Underline** fields located to the right of the word **Text:**.

3. Type the text of your **Annotation** into the **Annotation Builder** window's main text field.

If you wish to have a box drawn around the **Annotation**, activate the **Box** check box in the **Annotation Builder** window.

4. Define the area of the layer where the **Annotation** will appear by: a) placing the mouse pointer at the desired depth; b) **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape; c) releasing the **left** mouse button.

<u>**Show Select Box**</u> **-** The **Show Select Box** check box is activated to display the red dot overlying each of the **Annotations**. The red dots are displayed to help the user click on specific **Annotations** for editing within the **Annotation Builder** window. The **Show Select Box** check box is activated by **right clicking** once anywhere within the **log** to activate the pop-up menu and then selecting **Display** followed by **Select Box**.

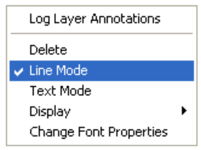
Note: You can make changes to the **Annotations** at any time by **clicking** once on the **Annotation** itself in order to display it in the **Annotation Builder** window for editing purposes.

5. Press the **Esc** key on the keyboard to exit from the **Annotation Builder** window.

Drawing a Line…

*****A Line can be associated with an existing Annotation or it can exist on its own.*****

1. **Click** on **Log Layer,** under the **Edit** menu selection, to activate the Annotation Builder window.
Right click anywhere within the log to activate the pop-up menu.



2. Select **Line Mode** from the pop-up menu and the **Line** radio button and check box within the **Annotation Builder** window will be activated.

Note: The **Text** and **Line** radio buttons are used simply to prevent the user from working on both the **Text** and the **Line** functions at the same time, i.e. the user can only work on the function that has had its radio button activated.

3. **Click** on the spot where you wish for the **Line** to begin, hold down the mouse button and then drag the mouse pointer to the spot where you wish for the **Line** to stop.
4. Release the **left** mouse button and the **Line** will be drawn accordingly.

Note: Every **Line**, whether it exists on its own or is affiliated with a given **Annotation**, must originate from within a new **Annotation Builder** window each time.

5. Press the **Esc** key on the keyboard to exit from the **Annotation Builder** window.

Editing Annotations

1. **Click** on **Log Layer,** under the **Edit** menu selection, to activate the **Annotation Builder** window.
2. **Click** on the List **button** to activate a list of all the annotations that have been created in a log layer and **double click** on the desired **annotation**. OR **Click** on the Annotation itself to display it in the Annotation Builder window
3. To change the Font Size of the Annotation now being displayed in the Annotation Builder window, simply select a new Font Size from the **Font Size** drop box, **click** on the Save **button or press ALT-S**, and the Font Size of the selected Annotation will be changed accordingly.

Note: The **Change Font Size** selection in the pop-up menu should only be used to change the **Font Size** for multiple **Annotations.**

4. To change the text of the **Annotation** now being displayed in the **Annotation Builder** window, simply edit the **Annotation** within the **Annotation Builder** window's large text field and then **click** on the Save **button or press ALT-S** when you are finished.

Note: If you wish to edit any other **Annotation** parameters, including the **Display Scale, Line Thickness**, and **Line Style,** simply make the necessary changes within the **Annotation Builder** window, **click** on the Save **button or press ALT-S** and the **Annotation** will be changed accordingly.

If you wish to modify the **Annotation** further, you can use the **Heading**, **Color**, **Bold**, **Italicize**, and **Underline** fields to modify the appearance of the **Annotation/Lithology Description** header and/or text. For example, The **Bold b** check box ☑ can be activated to bold the **Annotation** header and/or text, the *Italic* **i** check box ☑ can be used to italicize the **Annotation** header and/or text, and the Underline **u** check box ☑ can be used to underline the **Annotation** header and/or text. Moreover, the **Annotation** header and/or text may also be assigned different colors selected from the **Color** drop box fields.

Decide how **Power*Log / Core & Curve** will distinguish what portion of the **Annotation** is the header and what portion is the text by inserting a character, most often a colon"**:**", in the **Heading:** field to indicate the separation of the header from the **Annotation** text. This is applicable to every line in the **Annotation** and you can have numerous headers as a result.

For example: If you used the colon (**:**) displayed in the **Heading:** field by default, as your header, and then typed "***Lithology : no data***" in the main text field. "***Lithology***" would inherit whatever modifications, if any, were made to the **Color**, **Bold**, **Italicize**, and **Underline** fields located to the right of the **Heading:** field, while the "***no data***" would inherit whatever modifications, if any, were made to the **Color**, **Bold**, **Italicize**, and **Underline** fields located to the right of the word **Text:**.

5. Press the **Esc** key on the keyboard to exit from the **Annotation Builder** window, when you are finished.

Resizing Annotations

1. **Click** on **Log Layer,** under the **Edit** menu selection, to activate the **Annotation Builder** window.
2. **Click** on the List **button** to activate a list of all the annotations that have been created in the log layer and **double click** on the desired **annotation**. OR **Click** on the Annotation itself to display it in the Annotation Builder window
3. Place the mouse pointer over one of small boxes (■) used to define the outline around the **Annotation** and the mouse pointer will transform into a double arrow (⇳).
4. **Click** and drag the mouse pointer to define the new size for the **Annotation**, release the mouse button and the **Annotation** will be redrawn within its newly defined area.
5. Press the **Esc** key on the keyboard to exit from the **Annotation Builder** window, when you are finished.

Moving Annotations

1. **Click** on **Log Layer,** under the **Edit** menu selection, to activate the **Annotation Builder** window.
2. **Click** on the List **button** to activate a list of all the annotations that have been created in a log layer and **double click** on the desired **annotation**.
3. OR **Click** on the Annotation itself to display it in the Annotation Builder window
4. Place the mouse pointer inside the outline surrounding the selected **Annotation** on the **Log** and the mouse pointer will transform into the shape of a cross with four (4) arrows.
5. **Click and drag** the mouse pointer to the **Annotation's** new position, release the mouse button, and the **Annotation** will be redrawn at its new location.
6. Press the **Esc** key on the keyboard to exit from the **Annotation Builder** window, when you are finished.

Deleting Annotations

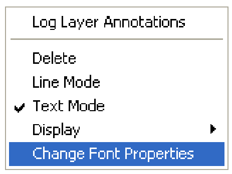
1. **Click** on **Log Layer,** under the **Edit** menu selection, to activate the **Annotation Builder** window.
2. **Click** on the List **button** to activate a list of all the annotations that have been created in a log layer and **double click** on the desired **annotation**. OR **Click** on the Annotation itself to display it in the Annotation Builder window

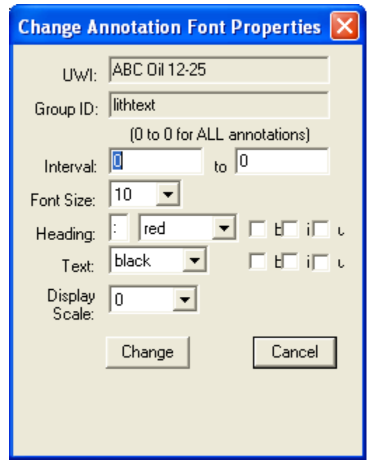
Note: If the **Annotation** you wish to delete is displayed in the **Annotation Builder** window, simply **click** on the Del **Delete button** to delete the selected **Annotation.**

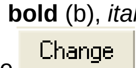
3. **Right click** anywhere within the **log** to activate the pop-up menu.
4. **Click** on **Delete selection** and you will receive the following system message, "***Do you really want to DELETE?***"
5. **Click** on the Yes **button** and the selected Annotation will be deleted accordingly.
6. Press the **Esc** key on the keyboard to exit from the **Annotation Builder** window, when you are finished.

Globally Changing Annotation Font Properties…

1. **Click** on **Log Layer,** under the **Edit** menu selection, to activate the **Annotation Builder** window.
2. **Right click** anywhere within the **log** to activate the pop-up menu.





3. Select **Change Font Properties** from the pop-up menu and the **Change Annotation Font Properties** window shown above will be activated.
4. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
5. Select a new font size for the **Annotation**(**s**) from the **Font Size** drop box .
6. The user can change the heading indicator, the color of the heading and text fonts as well as changing the font type to **bold** (b), *italic* (I) and underline (u)
7. **Click** on the 

button to modify the font properties of the selected **Annotation**(**s**).

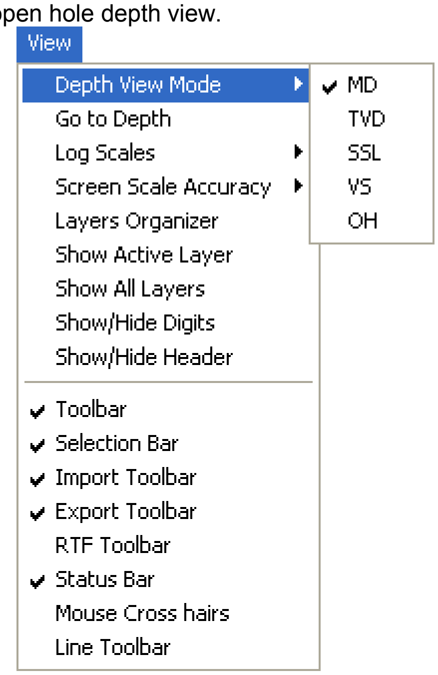
Chapter Three - View Menu

Depth View Mode

Changes the depth view of Power*Log or Power*Curve according to your needs. The Power*Log or Power*Core lithology logs can be viewed and printed in Measured Depth, Subsea Level or True Vertical Depth. The Power*Curve lithology log can be viewed and printed in Measured Depth, Vertical Section (along the calculated target azimuth) or Open Hole Depth (calculated from last casing data entry report window). These views are dependant on whether you have survey data entered and if you have calculated or entered in the TVD / Vertical Section fields in the Survey points window. There are two ways to change your depth views. They are both outlined below.

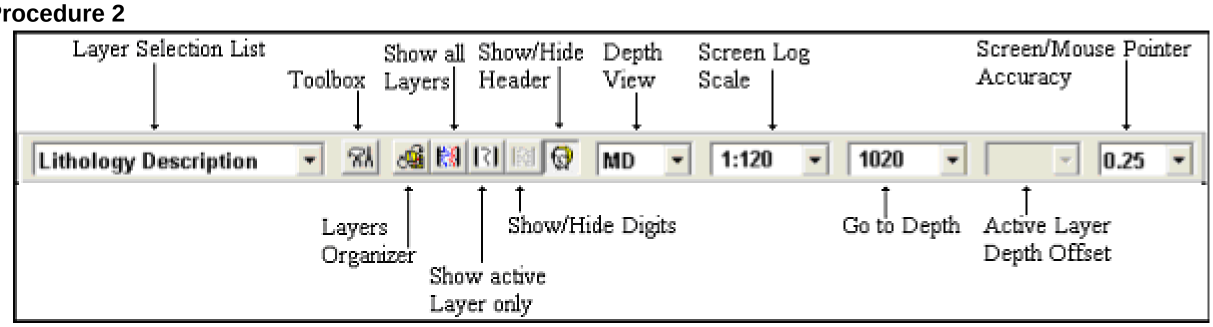
Procedure 1

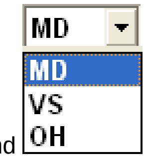
1. **Click** on **Depth View Mode**, under the **View** menu selection to activate the pop out menu and then **click** on the desired depth view to display the active log in **MD (Measured Depth), TVD (True Vertical Depth), SSL (Sub Sea Level Depth)** for Power*Log and Power*Core. In Power*Curve you will have the option to select from the desired depth view to display the active log in **MD (Measured Depth), VS (Vertical Section Depth) or OH (Open Hole Depth).** This will change the logs screen presentation. You will notice that the depth layer shows the depths with either an "m or ft" followed by "(ssl)" in subsea level view, "(tvd)" in true vertical depth view, "(vs)" in vertical section view or "(oh)" in open hole depth view.



N.B. The SSL, TVD, VS, and OH views are calculated from the directional surveys entered into the wells data. You must also have the KB elevation if you wish to view the log in the SSL view. The user has the ability to setup the master survey group information from the existing survey sets they wish to utilize for these views.

Procedure 2



1. **Click** on the down arrow on the  in Power*Log/Core and  in Power*Curve **Depth View mode selection** on the Selection Bar and select the desired depth view for your Log.

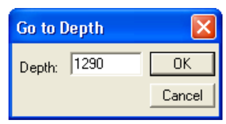
N.B.: Once SSL, TVD, VS or OH is activated the mouse pointer now indicates the view mode you are in as well as the measured depth that the mouse pointer is now pointing at.

Go To Depth

This allows you to go to a specific depth on the active log. There are two ways to do this procedure, as listed below:

Procedure 1

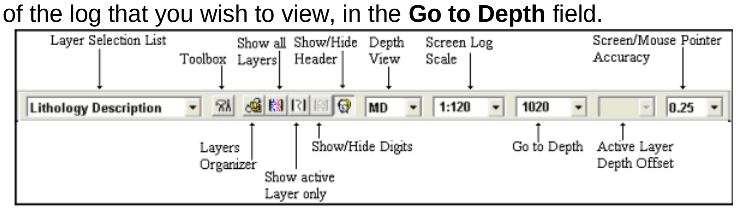
1. **Click** on **Go to Depth**, under the **View** menu selection, to activate the **Go to Depth** window for the active log.



2. **Type** in a **depth** in the depth field and then **click** on the  **button**. This will place the depth specified at the top of the screen in Power*Log/Core or the left of your screen in Power*Curve.

Procedure 2

1. **Click** in the **Go to Depth** field.
2. **Type in the depth** of the log that you wish to view, in the **Go to Depth** field.



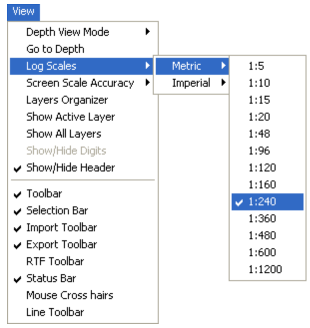
3. Once you have entered the desired depth, **press** the **Tab** key to exit from the **Go to Depth** field and the depth that you entered will then be displayed at the top of the log.

Log Scales

Allows the user to change the depth scale of the active log. Screen Log depth scales can be chosen from the menu and can also be type in the second method. The screen depth scales vary from 1:5 to 1:5000 (metric). There are two ways to do this procedure. They are both outlined below.

Procedure 1

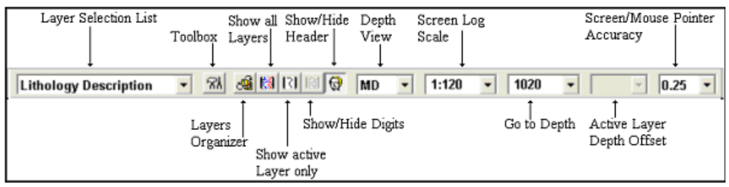
Click on **Log Scales**, under the **View** menu selection, to activate the **pop out menu** and then **click** on the **log scale** you want for the active Log. This will refresh your log with the new Scale.



Note: This list is a partial list of the scales that can be displayed. To get the ability to display the log at any scale between 1:5 and 1:5000 refer to Procedure 2.

Procedure 2

1. **Click** in the **Log Scales** field.
2. **Select a scale** from the list by clicking on it, or by **typing in a scale** in the **Log Scales** field.



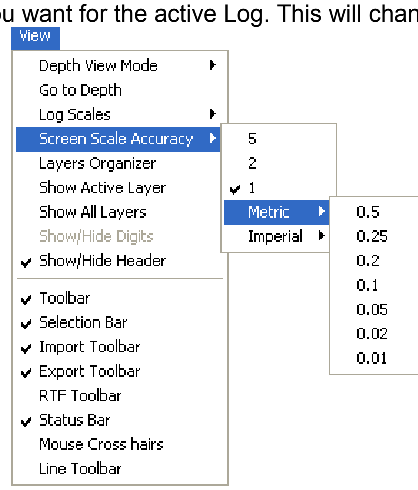
3. **Depress** the **Tab** key on your keypad. This will refresh your log with the new Log Scale.

Screen Accuracy

Varies the depth increment of the log according to your specifications. This increases or decreases the accuracy of your mouse pointer, while locating more specific depths with your mouse. There are two ways to do this procedure. They are both outlined below.

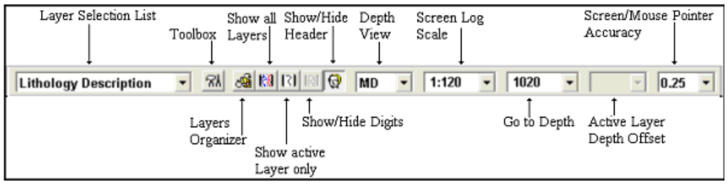
Procedure 1

1. **Click** on **Screen Scale Accuracy**, under the **View** menu selection, to activate the **pop out menu** and then **click** on the **screen scale accuracy** you want for the active Log. This will change the mouse's accuracy.



Procedure 2

1. **Click** on the **Screen Accuracy** field to activate the drop down menu.



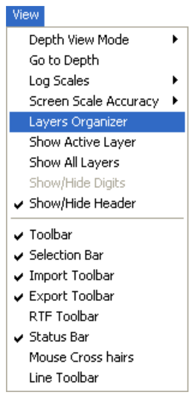
2. Select an available increment from the **Screen Accuracy** drop down menu by clicking once on the desired increment and your selection will be displayed within the **Screen Accuracy** field accordingly.

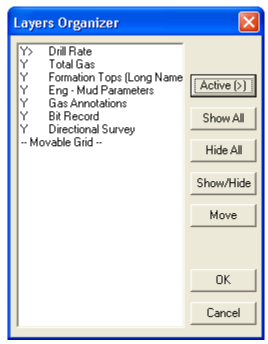
Layers Organizer

Allows you to choose which layers of the active track are active or inactive and shown or hidden.

Click on the track for which you wish to view the layers and the selected track will be highlighted with a green border.

Click on **Layers Organizer**, under the **View** menu selection, or **click** on the  **Layers Organizer button** on the **Toolbar** to activate the **Layers Organizer** window for the active track.





The order of the layers on this list determines the order in which the layers are drawn on the track. The layer at the top of the list is drawn last and the layer at the bottom is drawn first. It's a good idea to put the most important layers nearest the top of the list, so that when drawn they are on the top. Remember that the active layer displays its grid pattern.
The layers that are shown on the track are marked with a "**Y**", the hidden layers are marked with an "**N**", and the active layer is denoted with a "**>**".

To show all layers, **click** on the Show All **button**. To hide all layers, **click** on the Hide All **button**. To toggle a specific layer between show and hide, highlight the layer and **click** on the Show/Hide **button**. You may also double **click** on a layer to change its current state. To make a layer active, highlight it and **click** on the Active [>] button.

Moving a Layer…

Highlight the layer and **click** on the Move **button**, which will then display, Move Start
Then, **click** on the layer that you wish to position the moved layer above.

Moving the Grid for an Active Curve layer…

1. Make a curve layer active by highlighting a curve layer and clicking on the Active [>] button
2. Highlight the **Movable Grid** selection and **click** on the Move **button**, which will then display, Move Start
3. **Click** on the layer over which the grid pattern will be placed and the **Movable Grid** selection will then move one line above the selected layer.
4. **Click** on the OK **button** to exit from the **Layers Organizer** window.

Show All Layers

Displays every log layer that exists in your active track

To Show All the Layers of a given Track…

1. **Click** on the track you wish to view to make it active and it will be highlighted with a green border.
2. **Click** on **Show All Layers**, under the **View** menu selection, or **click** on the  **Show All Layers button** on the **Toolbar**.

Show Active Layer

Enables only the active layer, within the currently active track, to be seen on screen

1. **Click** on the track you wish to view to make it active and it will be highlighted with a green border.
2. **Click** on **Show Active Layer**, under the **View** menu selection, or **click** on the  **Show Active Layer button** on the **Toolbar**.

Show/Hide Header

Toggles between displaying the Header and removing it from the viewing area

Click on **Show/Hide Header**, under the **View** menu selection, or **click** on the  **Show/Hide Header button** on the **Toolbar**.

Show/Hide Digits

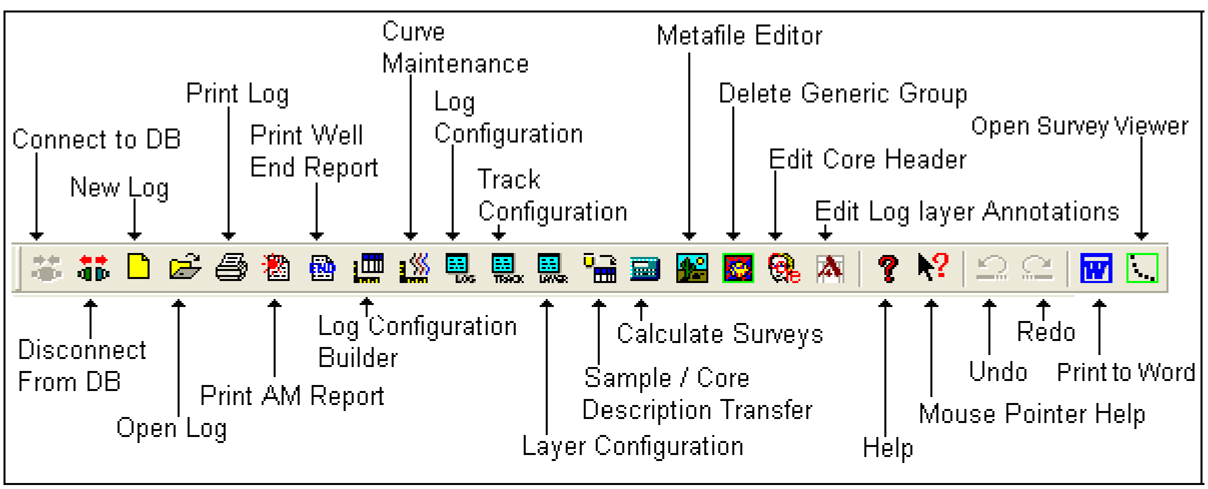
This function will either display or hide digits from the grid of an active curve layer on your log.

Click on **Show/Hide Digits**, under the **View** menu selection, or **click** on the  **Show/Hide Digits button** on the **Toolbar**.

<u>Note</u>: This function only works for **Curve** layers on the log.

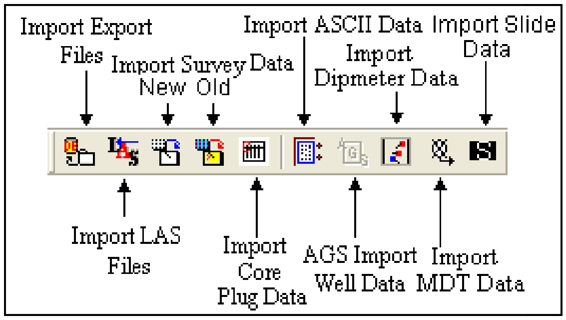
Toolbar

Turns the Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.
The Power*Log / Core & Curve™ Toolbar…



Import Toolbar

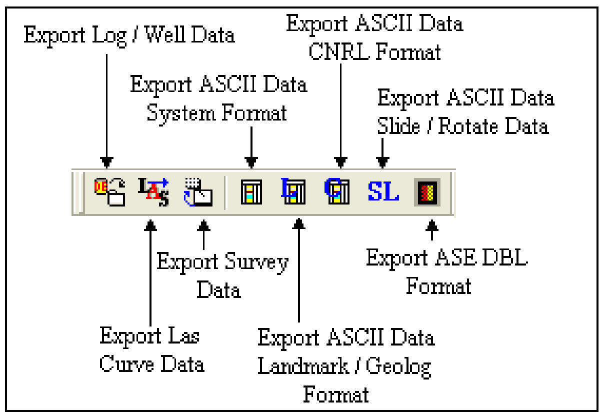
Turns the Import Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.
The Power*Log / Core & Curve™ Import Toolbar…



Export Toolbar

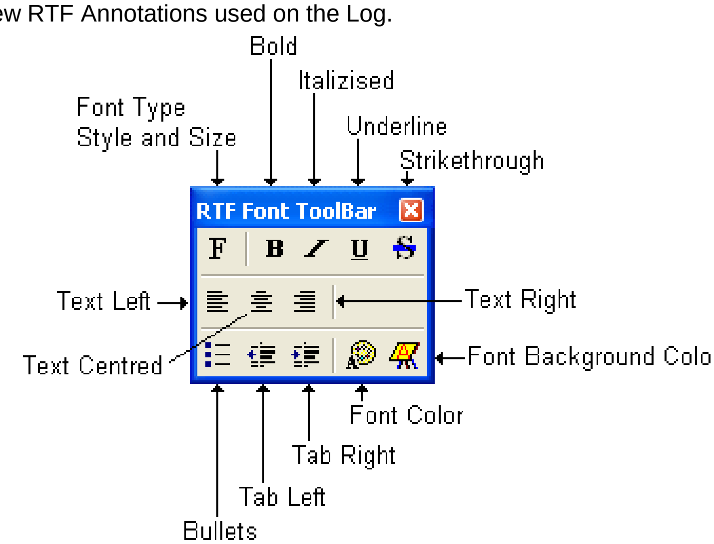
Turns the Export Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.

The Power*Log / Core & Curve™ Export Toolbar…



RTF Font Toolbar

Turns the RTF Font Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.
This is used with the New RTF Annotations used on the Log.



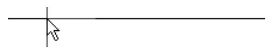
Status Bar

Turns the Status Bar, located at the bottom of the Power*Log / Core & Curve™ screen, on and off.
This is the Power*Log / Core & Curve™ Status Bar…
The **Status Bar** displays system status and any error messages in the lower left corner of the screen. If there are no errors the status bar will indicate "For Help, press F1".

Note: The **KB Elevation** is displayed in the lower right corner of the **Status Bar**

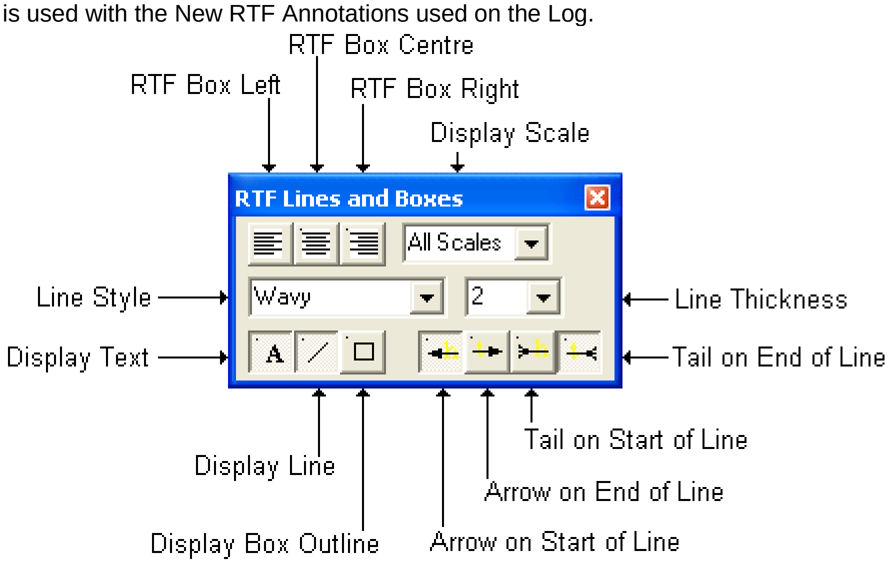
Mouse Cross hairs

Turns the Mouse Cross hairs on and off that follow the mouse around the screen. This can be helpful when the user would like to line up certain aspects of the core / striplog.



RTF Line and Boxes Toolbar

Turns the RTF Line and Boxes Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen. This is used with the New RTF Annotations used on the Log.

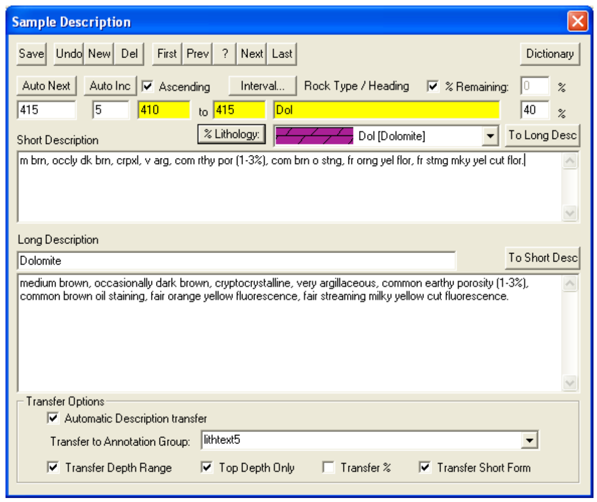


Chapter Four - Reports Menu

Sample Description

This report allows you to describe a Sample. The long descriptions will be used in the Sample Description Report that is printed out in the Well End Report. We have added an Ascending Check box so that user can either log up or down with respect to the depth intervals.
This window will now populate the % Lithology layer if it is utilized on your log as well. This % Lithology Layer will be populated if a % (percentage) is used as well as a Rock Type is selected in the % Lithology Rock Type drop down box.

Note: If the descriptions are then transferred to the Striplog and then edited on the striplog the descriptions entered in the Sample Description reports remain unchanged.



The Dictionary **button** activates the **Geology Dictionary** window that allows you to add, edit and delete abbreviations and long forms from the expansion dictionary.

The Auto Next **button** takes the last value saved to the **Interval** (To) field and places it in the **Interval** (From) field. Then, it places the cursor in the empty **Interval** (To) field and waits for the user to enter a new value.

The Auto Inc **button** adds the amount entered into the **Auto Increment** field (the default is 5m), to the **Interval** (From) and **Interval** (To) fields.

The Ascending check box when activated will advance the Top Depth with the Base depth value. This will only be implemented when the record is saved and the Start New Record option is chosen and then the Auto Next or the Auto Inc buttons are activated. If the Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

__Note__: The Auto Next or the Auto Inc buttons should only be activated, when the window has been cleared. This would mean selecting either the New **button** or the Start New Record in the save options window. If a **Rock Type** is present in the **Rock Type** field, prior to using these buttons, that **Rock Type** and its associated data will be associated with the new depths.

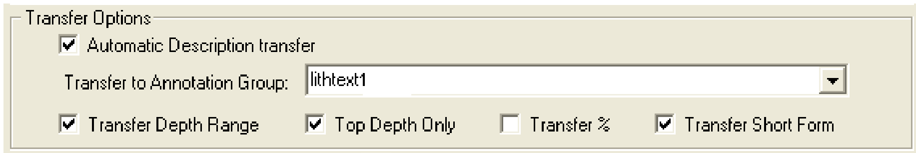
The Interval... **button** displays a list of descriptions that have been entered to date for the current well.

The % Lithology: **button** takes the correct Rock Type abbreviation and places the rock type in its associated field. If the abbreviation is not correct according to our expansion dictionary, the rock type will not be placed. Then, the user can choose the rock type from the drop down box.

The button expands the text you have typed in the **Short Description** field and places them in the **Long Description** field.

The button abbreviates the text you have typed in the **Long Description** field and places them in the **Short Description** field.

Automatic Sample Description Transfer Options



The **Automatic Description transfer** check box when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to, select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lihtext1, the second log created for a well will have a lithology description layer identified with a group called lihtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth Range** check box when activated will transfer the from and to depth interval to the log.
The **Transfer Top Depth Only** check box when will transfer only the from depth interval to the log.
The **Transfer %** check box when activated will transfer the rock % to the log.
The **Transfer Short Form** check box when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

Adding a Sample Description

1. **Click** on **Sample Description**, under the **Reports** menu selection. If any descriptions have been entered for the current well, the last description will be displayed. **Click** on the **button**. The intervals are set to zero (**0**) and the cursor is placed in the **Interval**(From) depth field.
2. Type the **Interval** (From) and **Interval** (To) depth values into their respective fields and press the **Tab** key on the keyboard to move to the next field.
3. **Type in** the **Rock Type** and press the **Tab** key.
4. **Type in** a **Percentage (%),** if you require one, and **Tab** out of the field.
5. This will make the **button** active. The user can **press** the **Enter Key** with this button active and if the Rock Type abbreviation is correct the rock type will show in its associate field. **Or** The User can **click** on the **button** and the rock type will show in its associate field.
6. If the rock type does not show in the field the user can **pick** their own rock type from the **drop down box** provided. The reason why it would not be populated is either the rock type symbol does not exist or the Short Form was not abbreviated correctly for this field to be populated. **Tab** to the Short Description field.
7. Type the **Short** (abbreviated) **Description** into the **Short Description** field. Note that any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.

Note: When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.
Note: You also have the option of typing out the non-abbreviated form of the **Sample Descriptions** into the **Long Description** field and then clicking on the **button** to display the abbreviated form of the **Sample Descriptions** in the **Short Description** field. Moreover, you may also type out the **Sample Descriptions** (abbreviated or non-abbreviated), using a **Window's** program, such as **Notepad** or **Word**, and then **Copy/Cut** and **Paste** the **Sample Descriptions** into either the **Short** or **Long Description** fields within the **Sample Description** window.

8. **Click** on the Save **button or press ALT-S**.

9. To enter another description at the same interval, **click** on the Start New Record **button** and repeat **Steps 3** to **8**.

10. To add a description to a new interval, **click** on the Start New Record **button or press ALT-N**, then **click** on the Auto Inc **button** or the Auto Next **button**, and repeat **Steps 3** to **8**.

<u>Note</u>: IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the Save **button or press ALT-S** every time you finish entering a new record.

Editing a Sample Description

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information**.**
2. Or, **Click** on the Interval... **button** to view a list of **Sample Descriptions** and then **double click** on the interval that you wish to edit.
3. Once the selected interval is displayed in the **Sample Description** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Sample Description…

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information**.**
2. Or, **Click** on the Interval... **button** to view a list of **Sample Descriptions** and then **double click** on the interval that you wish to delete.
3. **Click** on the Del **Delete button**.
4. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

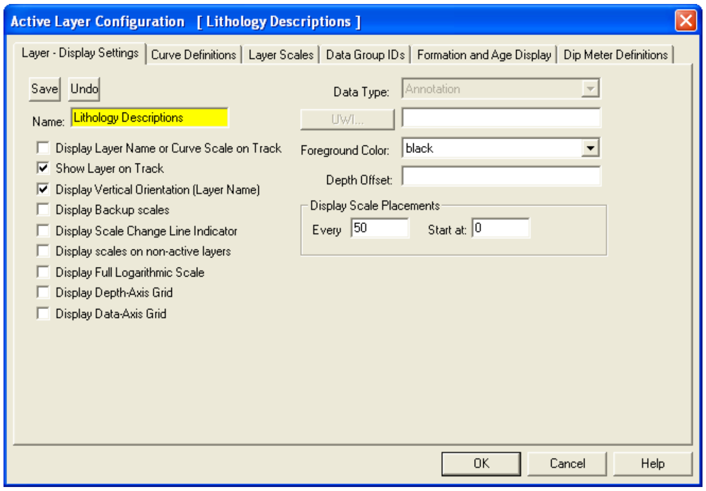
The Undo **button** will restore the window to the settings of the last saved record.
You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

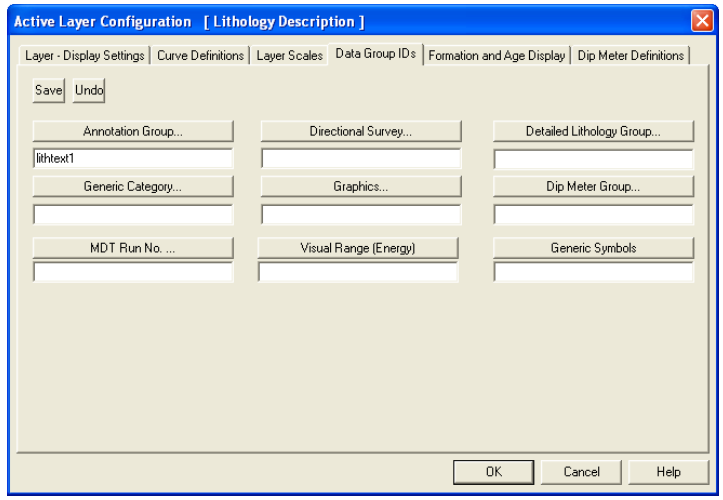
<u>Field Restriction Table:</u>

Intervals (From & To)	7.5	Numeric	Mandatory
Rock Type	50	Character	Mandatory
Percentage	3	Numeric	Optional
Short Description	65,535	Character	Optional

For other ways on how to transfer Sample Descriptions to a log, see the “*Sample/Core Description Transfer*” section in Chapter Five of the User Manual.

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **Lithology Description** layer are shown below. To access this window, **click** on the LAYER **Layer Configuration button** on the **Toolbar**, when the layer is active.

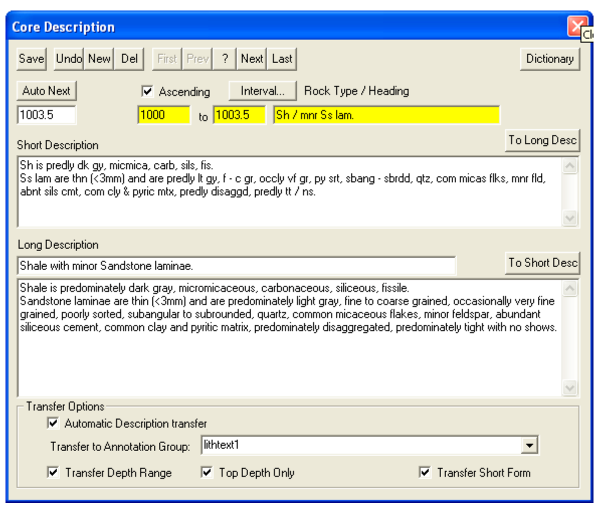




Core Descriptions

This report allows you to describe a Core on an interval basis. The long descriptions will be used in the Core Description Report that is printed out in the Well End Report print window. We have modified the window to get rid of some of the confusing buttons and we have added an Ascending Check box so that user can either log up or down with respect to the depth intervals.

Note: If the descriptions are entered into this Core Description report and transferred to the Striplog and then edited on the striplog the descriptions entered in this Core Description reports remain unchanged.



The Dictionary **button** activates the **Geology Dictionary** window that allows you to add, edit and delete abbreviations and long forms from the expansion dictionary.

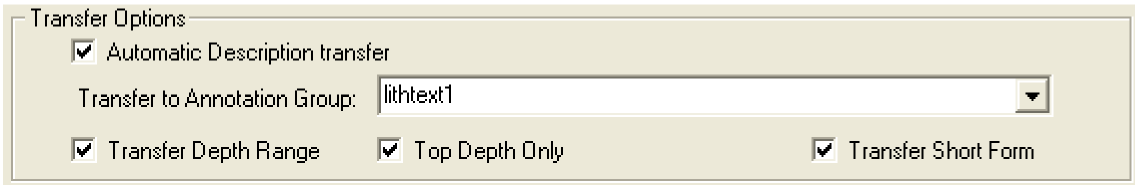
The ☑ Ascending check box when activated will advance the Top Depth with the Base depth value. This will only be implemented when the record is saved and the Start New Record option is chosen. If the ☐ Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

The Interval... **button** displays a list of descriptions that have been entered to date for the current well.

The To Long Desc **button** expands the text you have typed in the **Short Description** field and places them in the **Long Description** field.

The To Short Desc **button** abbreviates the text you have typed in the **Long Description** field and places them in the **Short Description** field.

Automatic Description Transfer Options



The **Automatic Description transfer** check box when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lithtext1, the second log created for a well will have a lithology description layer identified with a group called lithtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth Range** check box when activated will transfer the from and to depth interval to the log.
The **Transfer Top Depth Only** check box when activated will transfer only the from depth interval to the log.
The **Transfer Short Form** check box when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

Adding a Core Description

1. **Click** on **Core** under the **Reports** menu selection to activate the **Well Core** window.
2. The user must fill in the Mandatory fields in the core window and save this record before you can click on **Core Description Button** in the Well Core window. If any descriptions have been entered for the current well, the last description will be displayed. Otherwise, the intervals are set to zero (**0**) and the cursor is placed in the **Interval** (From) depth field.
3. Type the **Interval** (From) and **Interval** (To) depth values into their respective fields and press the **Tab** key on the keyboard to move to the next field.
4. Type in the **Rock Type** and press the **Tab** key.
5. Type the **Short** (abbreviated) **Description** into the **Short Description** field.

Note that any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.

When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.

6. **Click** on the Save **button or press ALT-S**, and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Note: You also have the option of typing out the non-abbreviated form of the **Core Descriptions** into the **Long Description** field and then clicking on the To Short Desc **button** to display the abbreviated form of the **Core Descriptions** in the **Short Description** field.

7. Repeat **Steps 3** to **6.**

Note: IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the Save **button or press ALT-S** every time you finish entering a new record.

Editing a Core Description

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the Interval... **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to edit.
3. Once the selected interval is displayed in the **Core Description** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S and** then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Core Description

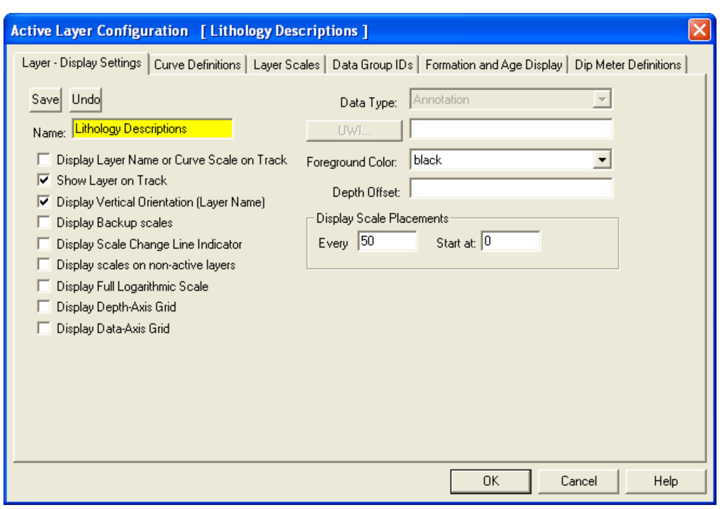
1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the Interval... **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to delete.
3. **Click** on the Del **Delete button**.
4. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

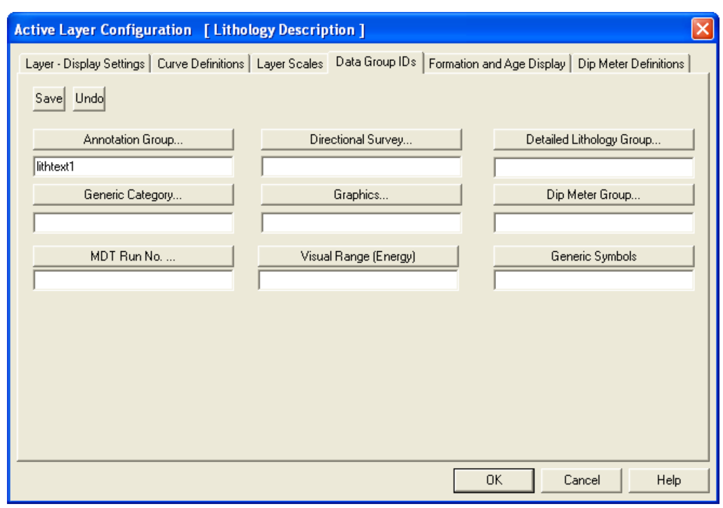
Field Restriction Table:

Intervals (From & To)	7.5	Numeric	Mandatory
Rock Type	50	Character	Mandatory
Short Description	63,535	Character	Optional

For another way on how to transfer Core Descriptions to a log, see the "*Transferring Core Descriptions*" section in Chapter Five of the User Manual.

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **Core Description** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.

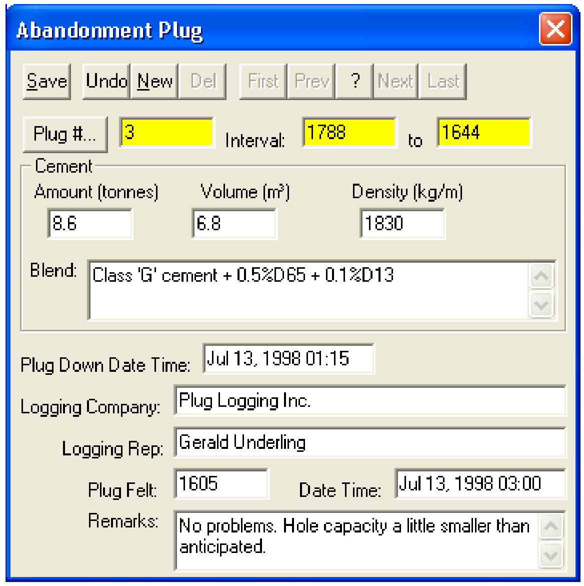




Abandonment Plug

This is where you record Abandonment Plug data. This information can be printed in your Well End Report, but cannot be displayed on the log at this point in time.

<u>This is the Abandonment Plug Report window:</u>



Adding an Abandonment Plug

1. **Click** on **Abandonment Plug** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing an Abandonment Plug

1. **Click** on the Plug #... **button** to view a list of **Abandonment Plugs** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Abandonment Plug** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting an Abandonment Plug

1. **Click** on the Plug #... **button** to view a list of **Abandonment Plugs** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Abandonment Plug** window, **click** on the Del **Delete button**.

2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Abandonment Plug** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

Field Restriction Table:

Plug Number	10	Character	Mandatory
Top Depth	5.2	Numeric	Mandatory
Base Depth	5.2	Numeric	Mandatory
Cement Amount	6.2	Numeric	Optional
Cement Volume	6.2	Numeric	Optional
Cement Density	6.0	Numeric	Optional
Cement Blend	40000	Character	Optional
Plug Down Date	DATE FORMAT		Optional
Logging Company	30	Character	Optional
Logging Rep.	30	Character	Optional
Plug Felt Depth	5.2	Numeric	Optional
Plug Felt Date	DATE FORMAT		Optional
Remarks	40000	Character	Optional

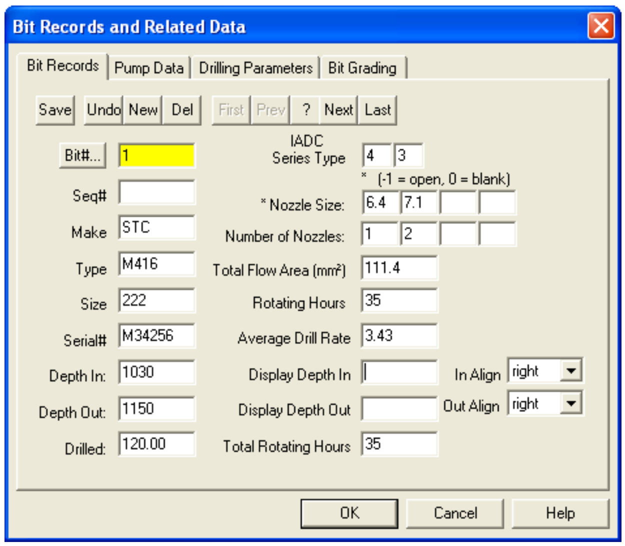
Bit Record

Bit Record data is entered into this window.

The data entered into this window is used to generate three separate **Well End Reports**: the "***Bit Records***" report, the "***Bit Record Summary (IADC)***" report, and the "***Bit Record Summary (TBG)***" report. The "***Bit Record Summary (IADC)***" report is made up of select fields of data including: **Bit #, Make, Type, Size, Depth In, Depth Out, Drilled, Rotating Hours, Average Drill Rate,** and the **IADC Bit Grading System** fields. The "***Bit Record Summary (TBG)***" report is made up of the same fields of data, however, it also includes the **Size** and **TBG Grading System** fields.

When entering this data into the **Bit Record** window, you can save time by filling in only the information required for the **Bit Record** and **Bit Record Summary** reports, as well as the information that is displayed on the **Bit Record** layer on the log.

Note: The **Pump Data** tab section of the **Bit Record** window only needs to be filled in once per well. The only information required for each additional **Bit Record** is the **Pump SPM**, **Efficiency (%)**, and **Pump Output (l/min)**.



Adding a Bit Record

Bit Records Tab

1. **Click** on **Bit Record** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N**.

Note: In the event of a "plugback" or redirected well, the Seq# field can be used to override the Bit order (normally dictated by the values in the Depth Out field), so that the Bits can be kept in the proper sequence or order.

3. Enter any appropriate information into the empty fields.

Note: Please leave the Rotating Hours field blank or empty, if you wish to indicate a zero(0) value for Rotating Hours. Otherwise, you will receive an "Error in formula" error message, in the Well End Report window, when you attempt to printout the Bit Record Summary reports.

4. Select an alignment for the **Bit In** and **Bit Out** data to be shown on the **Bit Record** layer. The default alignment is to the **right** of the **Bit Record** layer. However, you can select a **left**, **right**, **center**, or **blank** alignment. If you select a **blank** alignment the **Bit Record** will not be displayed, but it will still be printed out in the **Well End Report** window.

5. The Bit In data is defaulted to display the information NB#6 WRB HR-S35 from the depth entered into the depth in field. That can be changed by typing in a different depth in the **Display Depth In field** for the information. The bow ties will remain at the depth the bit was tripped in.

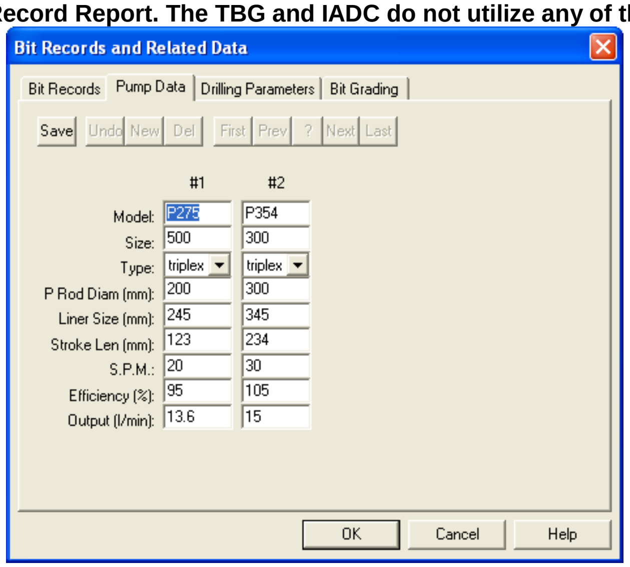
6. The Bit Out data is defaulted to display the information Bit#6 WRB HR-S35 237.00 / 32 hrs Cond 6-6-WT-A--F-16-RG-TG from the depth entered into the depth out field. That can be changed by typing in a different depth in the **Display Depth Out field** for the information. The bow ties will remain at the depth the bit was tripped out.

Note: The **Bit In** information consists of Bit #, Make, and Type NB#6 WRB HR-S35, while the **Bit Out** information consists of Bit #, Make, Type, Meters Drilled, Rotating Hours, and either Bit Grading Systems Bit#6 WRB HR-S35 237.00 / 32 hrs Cond 6-6-WT-A--F-16-RG-TG.

7. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Pump Data Tab

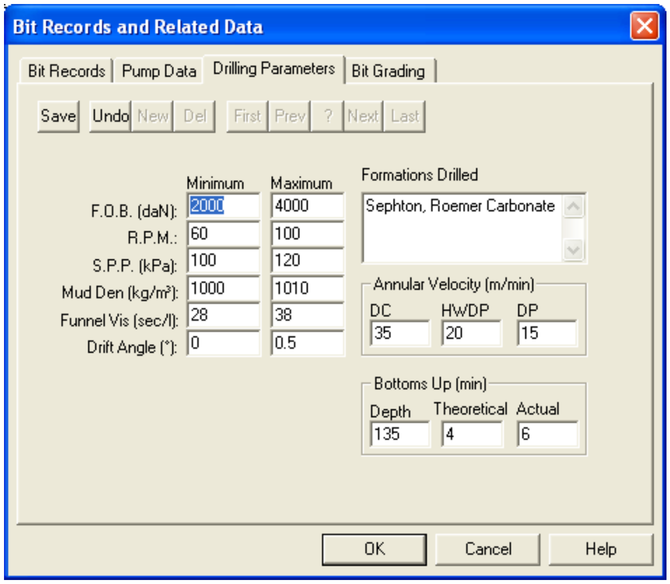
This information is stored and remembered for the entire well. You may wish to change the average strokes per minute and the output otherwise all should be good. The only Bit Record Report that utilizes this information is the Full Bit Record Report. The TBG and IADC do not utilize any of this information.



1. **Click** on the **Pump Data Tab**
2. **Tab** through the fields and **type** the appropriate information in each field**.**
3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Drilling Parameters Tab

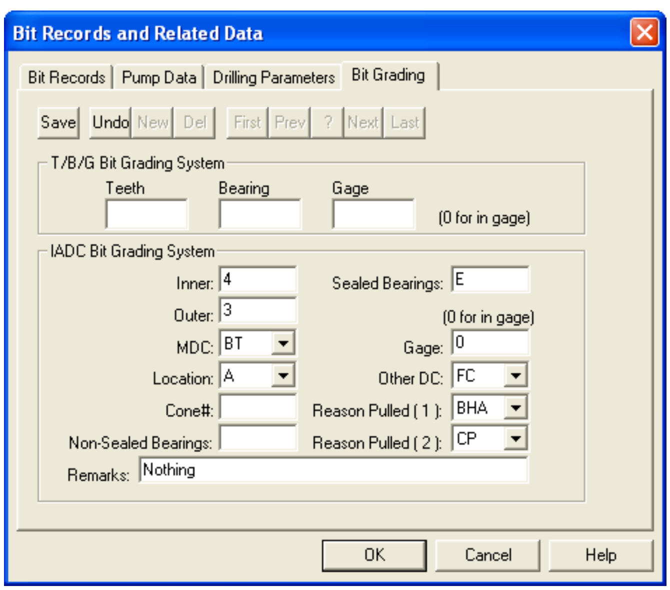
The only Bit Record Report that utilizes this information is the Full Bit Record Report. The TBG and IADC do not utilize any of this information.



1. **Click** on the **Drilling Parameters Tab**
2. **Tab** through the fields and **type** the appropriate information in each field**.**
3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Bit Grading Tab

This information is utilized in all Bit Record Reports.



1. **Click** on the **Drilling Parameters Tab**
2. **Tab** through the fields and **type** the appropriate information in each field**.**

3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Editing a Bit Record

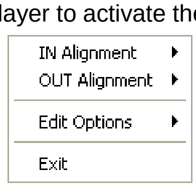
1. **Click** on **Bit Record** under the **Reports** menu selection.
2. **Click** on the Bit#... **button** to view a list of **Bit Records** to date and then **double click** on the record that you wish to edit.
3. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
4. Once the selected interval is displayed in the **Bit Record** window, make any changes you feel are necessary. Click on each Tab to view all the information entered for this bit.
5. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Bit Record

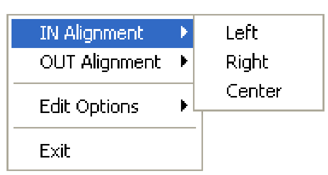
1. **Click** on **Bit Record** under the **Reports** menu selection.
2. **Click** on the Bit#... **button** to view a list of **Bit Records** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Bit Record** window, **click** on the Del **Delete button**.
3. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Abandonment Plug** window. Then, **click** on the Del **Delete button**.
4. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Aligning All Bit Records

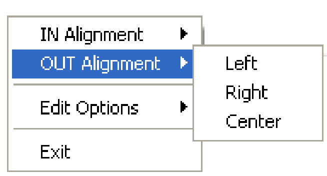
1. Make the **Bit Record** layer active within the **Drilling Progress** track by clicking on the track and then selecting the **Bit Record** layer from the **Layer Selection List** field.
2. **Right click** anywhere within the **Bit Record** layer to activate the pop-up menu.



3. **Select IN Alignment** from the pop-up menu to activate a pop out menu and **select Left, Right** or **Center** to align the bit in records accordingly.



4. **Select OUT Alignment** from the pop-up menu to activate a pop out menu and **select Left, Right** or **Center** to align the bit out records accordingly.



Moving Bit Records (Drag and Drop In / Out Info) on the Layer.

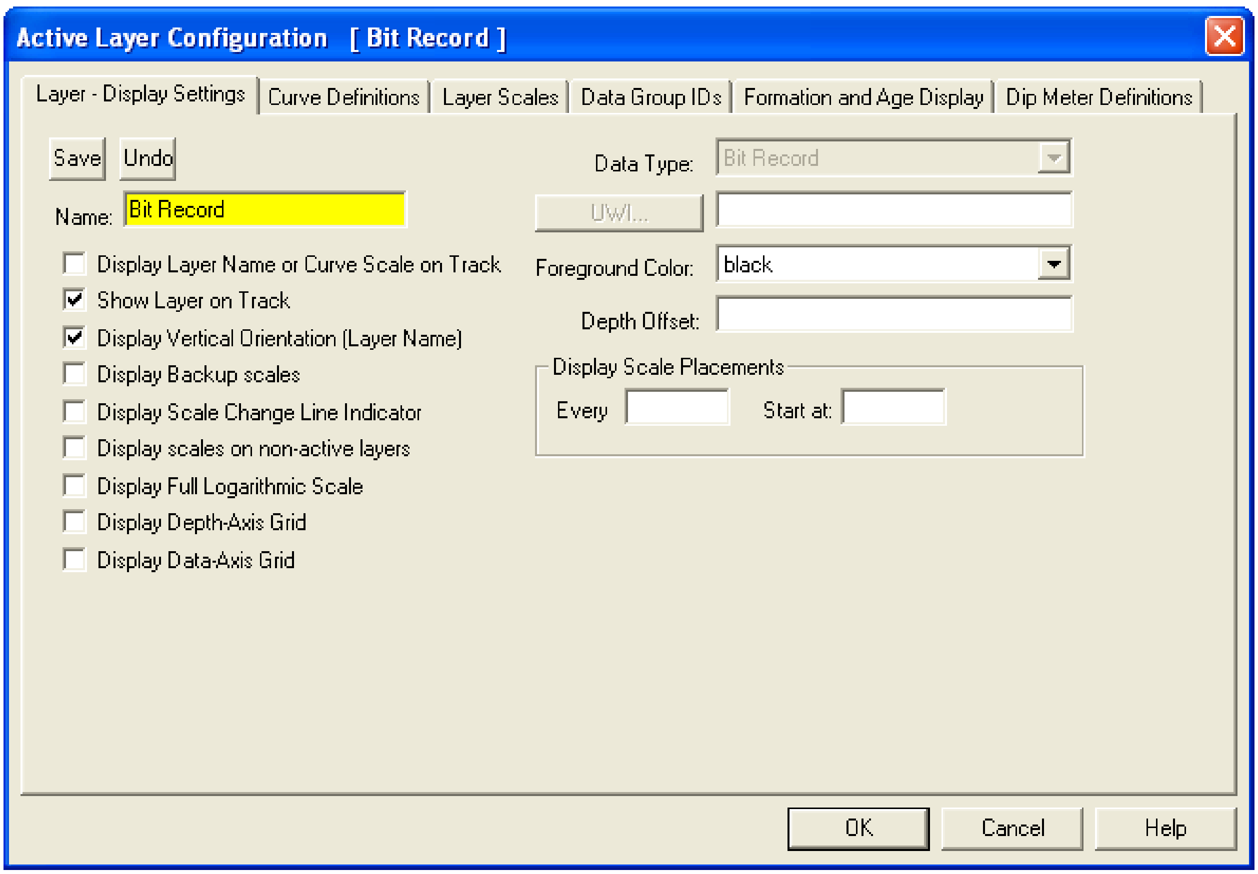
1. Make the **Bit Record** layer active within the **Drilling Progress** track by clicking on the track and then selecting the **Bit Record** layer from the **Layer Selection List** field.
2. **Double click** on the **Layer** to activate the Bit Record Data entry window.
3. **Depress and Hold** the **CTRL key** (on the keypad) and **click** on the Bit record **In or Out information** and drag your mouse to a new location on the layer. You will see the outline of the data moving with your mouse pointer. **Let your mouse pointer go** and the information will be placed at that new location. **Release the Ctrl key.**
4. **Repeat Step** 3 to move more Bit Record In / Out Information on a layer.

Field Restriction Table:

Bit Number	10	Character	Mandatory
Make	15	Character	Optional
Type	10	Character	Optional
Size	5.3	Numeric	Optional
Serial Number	15	Character	Optional
IADC Series	2.0	Numeric	Optional
IADC Type	2.0	Numeric	Optional
Nozzle Size 1	2.1	Numeric	Optional
Nozzle Size 2	2.1	Numeric	Optional
Nozzle Size 3	2.1	Numeric	Optional
Nozzle Size 4	2.1	Numeric	Optional
Number of Nozzle 1	1.0	Numeric	Optional
Number of Nozzle 2	1.0	Numeric	Optional
Number of Nozzle 3	1.0	Numeric	Optional
Number of Nozzle 4	1.0	Numeric	Optional
TFA	4.1 (Calculated)	Numeric	Optional
Depth In	5.2	Numeric	Optional
Depth Out	5.2	Numeric	Optional
Display Depth In	5.2	Numeric	Optional
Display Depth Out	5.2	Numeric	Optional
Drilled	Calculated		
Rotating Hours	3.2	Numeric	Optional
Average Drill Rate	3.2	Numeric	Optional
Total Rotating Hrs	5.2	Numeric	Optional
FOB Min	6.0	Numeric	Optional
FOB Max	6.0	Numeric	Optional
RPM Min	6.0	Numeric	Optional
RPM Max	6.0	Numeric	Optional
SPP Min	6.0	Numeric	Optional
SPP Max	6.0	Numeric	Optional
Mud Density Min	6.0	Numeric	Optional
Mud Density Max	6.0	Numeric	Optional
Funnel Vis Min	6.0	Numeric	Optional
Funnel Vis Max	6.0	Numeric	Optional
Drift Angle Min	3.3	Numeric	Optional
Drift Angle Max	3.3	Numeric	Optional
TBG Teeth	1	Character	Optional
TBG Bearing	1	Character	Optional
TBG Gage	6.0	Numeric	Optional
Pump Model (1&2)	15	Character	Optional
Pump Size (1&2)	10	Character	Optional
Pump Type (1&2)	10	Character	Optional
Pump Rod Di(1&2)	6.0	Numeric	Optional
Liner Size (1&2)	6.0	Numeric	Optional
Stroke Length (1&2)	6.0	Numeric	Optional
SPM (1&2)	6.0	Numeric	Optional
Efficiency (1&2)	3.0	Numeric	Optional
Output (1&2)	5.2	Numeric	Optional
Formations Drilled	254	Character	Optional
Annular Vel DC	6.0	Numeric	Optional
Annular Vel HWDP	6.0	Numeric	Optional
Annular Vel DP	6.0	Numeric	Optional
Bottoms Up Depth	5.2	Numeric	Optional
Bottoms Up Theor.	6.0	Numeric	Optional
Bottoms Up Actual	6.0	Numeric	Optional
IADC Inner Rows	1	Character	Optional
IADC Outer Rows	1	Character	Optional

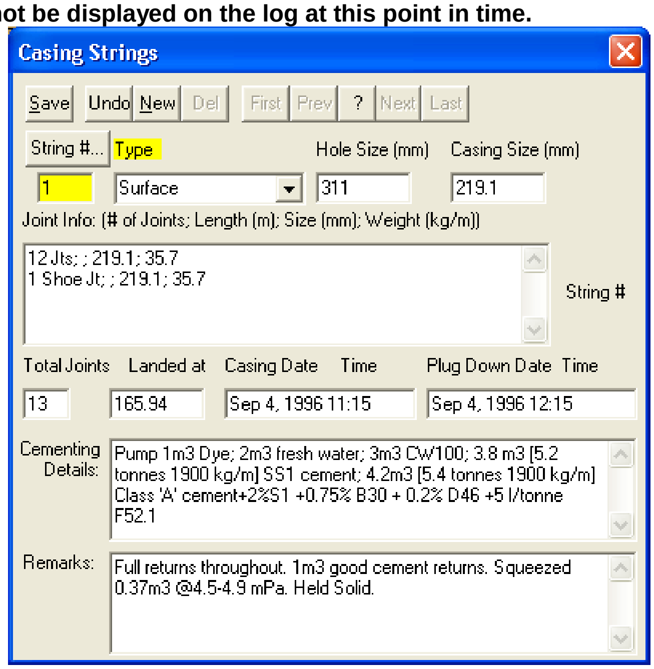
IADC Major Dull C	2	Character	Optional
IADC Location	1	Character	Optional
IADC Show Cone #	4	Character	Optional
IADC Non-sealed B	1	Character	Optional
IADC Sealed Bearing	1	Character	Optional
IADC Gage	6.0	Numeric	Optional
IADC Other Dull C	2	Character	Optional
IADC Pulled Reasons	3	Character	Optional
IADC Remarks	50	Character	Optional

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Bit Record** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the layer is active.



Casing Strings

All information involving Casing Strings is entered into this window. This information can be printed in your Well End Report, but cannot be displayed on the log at this point in time.



Adding a Casing String

1. **Click** on **Casing String** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Editing a Casing String

1. **Click** on the String #... **button** to view a list of **Casing Strings** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Casing String** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Casing String

1. **Click** on the String #... **button** to view a list of **Casing Strings** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Casing Strings** window, **click** on the Del **Delete button**.

2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Casing String** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

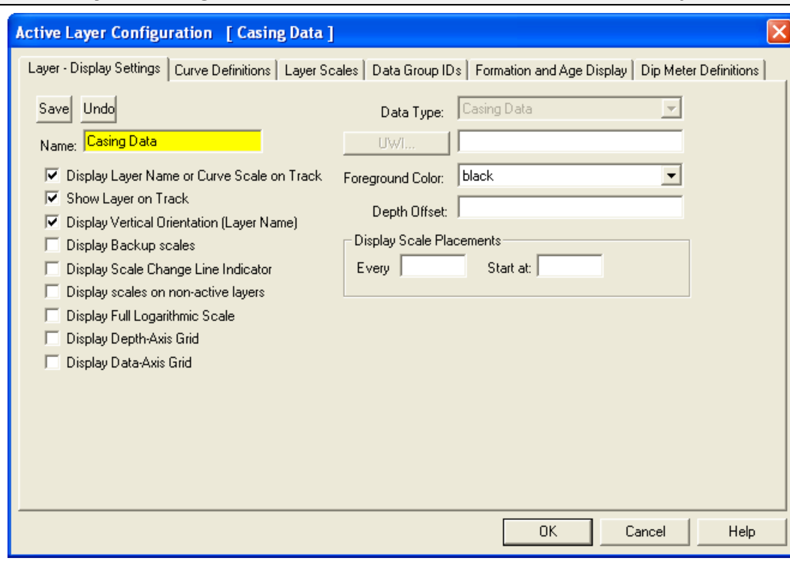
Moving the Casing (Drag and Drop Data) on the Layer.

1. Make the **Casing** layer active within the track by clicking on the track and then selecting the **Casing** layer from the **Layer Selection List** field.
2. **Double click** on the **Layer** to activate the Bit Record Data entry window.
3. **Depress and Hold** the **CTRL key** (on the keypad) and **click** on the **Casing information** and drag your mouse to a new location on the layer. You will see the outline of the data moving with your mouse pointer. **Let your mouse pointer go** and the information will be placed at that new location. **Release the Ctrl key.**
4. **Repeat Step** 3 to move more Casing Information on a layer.

Field Restriction Table:

String Number	4.0	Numeric	Mandatory
Type	30	Character	Mandatory
Hole Size	5.2	Numeric	Optional
Casing Size	5.2	Numeric	Optional
Joint Info	40000	Character	Optional
Total Joints	4.0	Numeric	Optional
Landed Depth	5.2	Numeric	Optional
Casing Date	DATE FORMAT		Optional
Plug Down Date	DATE FORMAT		Optional
Cementing Details	40000	Character	Optional
Remarks	40000	Character	Optional

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Bit Record** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.

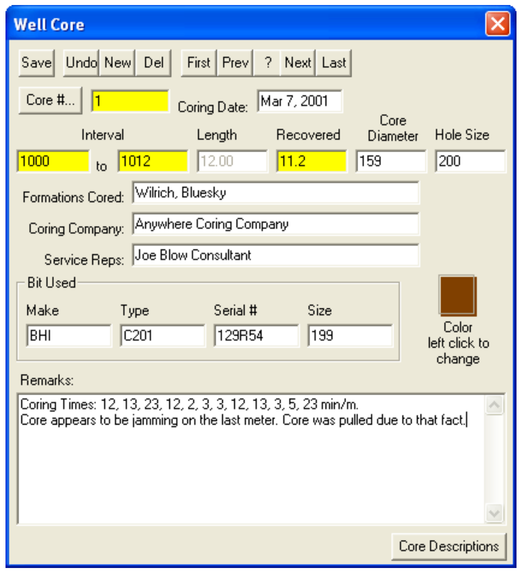


Core

Well Core information is entered into the window shown below. This information fills in the header of the Core Report and indicates the location of a cut core on the Core layer.

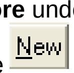
The actual **Core Descriptions** are entered into the **Core Description** window, located in the lower left corner of the Well Core Report Window. These **Core Descriptions** will then be used in the **Well End Report** print window's "***Core Report***", if the **Core Description Interval** (To) and **Interval** (From) depth values fall <u>between</u> the top and bottom of the cored interval.

<u>Note</u>: The **Core Report** will <u>not</u> print out, until you have completed at least **one** (**1**) **Core Description** that falls <u>between</u> the **Core's Interval** (To) and **Interval** (From) depth values.



<u>Note</u>: The **Recovered** field should be filled in with a **Recovery Length** and not a **Percentage**. The percentage is calculated for you on the final report and on the **Core** layer on the log.

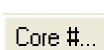
Adding a Core

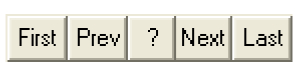
1. **Click** on **Core** under the **Reports** menu selection.
2. **Click** on the 

button or press ALT-N in the Well Core Window shown above and then fill in the report window with your data.
3. When you have finished adding your data, **Click** on the 

button or press ALT-S and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Core

1. **Click** on the 

button to view a list of **Cores** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools 

to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Well Core** window, make any changes you feel are necessary.
4. **Click** on the 

button or press ALT-S and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

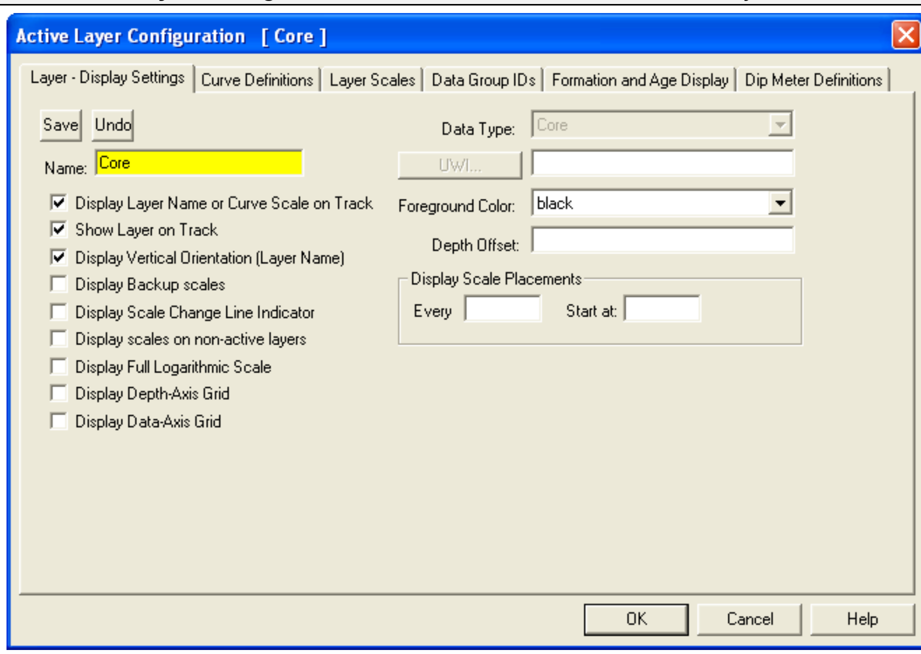
Deleting a Core

1. **Click** on the Core #... **button** to view a list of **Cores** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Well Core** window, **click** on the Del **Delete button**.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Well Core** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

<u>Field Restriction Table:</u>

Core Number	20	Character	Mandatory
Coring Date	DATE FORMAT		Optional
Top Depth	5.2	Numeric	Mandatory
Base Depth	5.2	Numeric	Mandatory
Recovered (meters)	5.2	Numeric	Mandatory
Core Outside Diameter	5.3	Numeric	Optional
Hole Size	5.3	Numeric	Optional
Formation	50	Character	Optional
Coring Company	50	Character	Optional
Service Rep.	50	Character	Optional
Bit Make	15	Character	Optional
Bit Type	10	Character	Optional
Bit Serial Number	15	Character	Optional
Bit Size	5.3	Numeric	Optional
Remarks	40000	Character	Optional
Digital Curve	30	Character	Optional

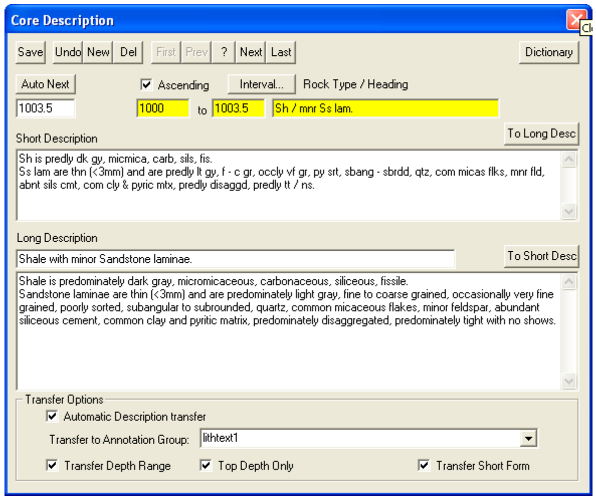
<u>Note</u>: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Bit Record** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.



Core Descriptions

This report allows you to describe a Core on an interval basis. The long descriptions will be used in the Core Description Report that is printed out in the Well End Report print window. We have modified the window to get rid of some of the confusing buttons and we have added an Ascending Check box so that user can either log up or down with respect to the depth intervals.

Note: If the descriptions are entered into this Core Description report and transferred to the Striplog and then edited on the striplog the descriptions entered in this Core Description reports remain unchanged.



The Dictionary **button** activates the **Geology Dictionary** window that allows you to add, edit and delete abbreviations and long forms from the expansion dictionary.

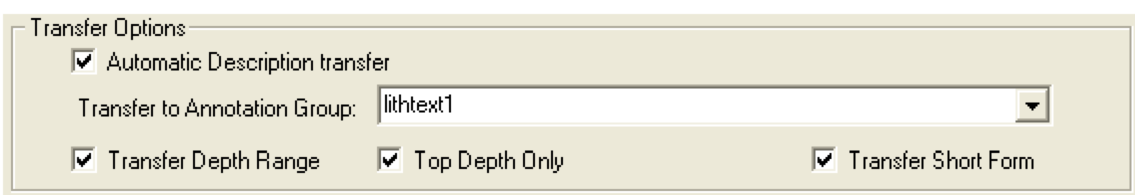
The Ascending check box when activated will advance the Top Depth with the Base depth value. This will only be implemented when the record is saved and the Start New Record option is chosen. If the Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

The Interval... **button** displays a list of descriptions that have been entered to date for the current well.

The To Long Desc **button** expands the text you have typed in the **Short Description** field and places them in the **Long Description** field.

The To Short Desc **button** abbreviates the text you have typed in the **Long Description** field and places them in the **Short Description** field.

Automatic Description Transfer Options



The **Automatic Description transfer** check box when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lithtext1, the second log created for a well will have a lithology description layer identified with a group called lithtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth Range** check box ☑ when activated will transfer the from and to depth interval to the log.
The **Transfer Top Depth Only** check box ☑ when activated will transfer only the from depth interval to the log.
The **Transfer Short Form** check box ☑ when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

Adding a Core Description

1. **Click** on **Core** under the **Reports** menu selection to activate the **Well Core** window.
2. The user must fill in the Mandatory fields in the core window and save this record before you can click on **Core Description Button** in the Well Core window. If any descriptions have been entered for the current well, the last description will be displayed. Otherwise, the intervals are set to zero (**0**) and the cursor is placed in the **Interval** (From) depth field.
3. Type the **Interval** (From) and **Interval** (To) depth values into their respective fields and press the **Tab** key on the keyboard to move to the next field.
4. Type in the **Rock Type** and press the **Tab** key.
5. Type the **Short** (abbreviated) **Description** into the **Short Description** field.

> **Note** that any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.
>
> When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.

6. **Click** on the Save **button or press ALT-S**, and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

> **Note:** You also have the option of typing out the non-abbreviated form of the **Core Descriptions** into the **Long Description** field and then clicking on the To Short Desc **button** to display the abbreviated form of the **Core Descriptions** in the **Short Description** field.

7. Repeat **Steps 3** to **6.**

> **Note:** IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the Save **button or press ALT-S** every time you finish entering a new record.

Editing a Core Description

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the Interval... **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to edit.
3. Once the selected interval is displayed in the **Core Description** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S and** then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Core Description

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the Interval... **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to delete. Then **Click** on the Del **Delete button**.

3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Field Restriction Table:

Intervals (From & To)	7.5	Numeric	Mandatory
Rock Type	50	Character	Mandatory
Short Description	63,535	Character	Optional

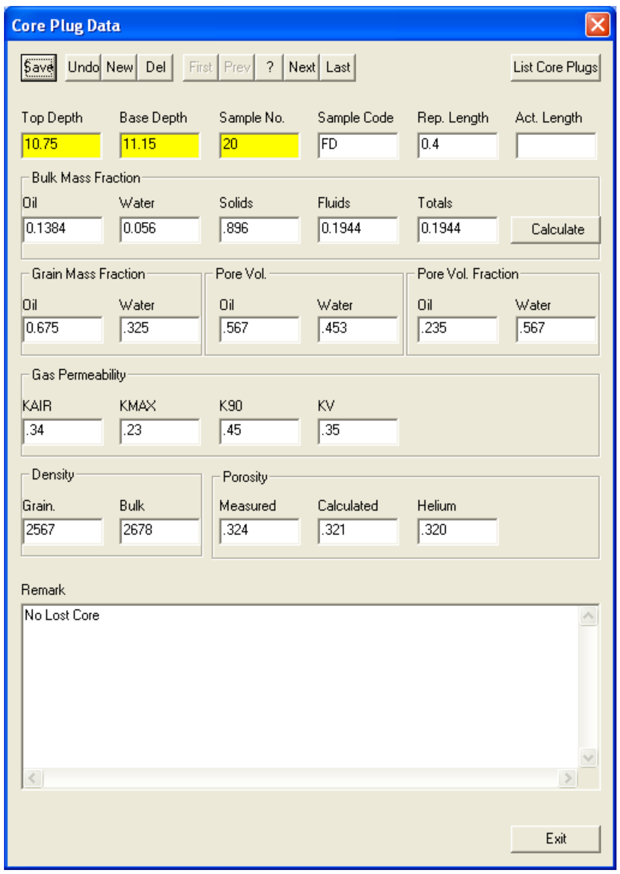
For another way on how to transfer Core Descriptions to a log, see the "*Transferring Core Descriptions*" section in Chapter Five of the User Manual.

Core Plugs Report Window

The Core Plugs Report will display the each individual data field on individual layers. You will find these tracks and layers associated with this report on the SYSTEM log. You can add some or all of these layers to any of your existing logs. The values can be entered into the report manually or can be imported through the Import Core Data Utility. *Refer to Import Core Data Utility*

Adding an Core Plug record manually

1. **Click** on **Core Plugs** under the **Reports** menu selection.



2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.

3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing an Core Plug

1. **Click** on the List Core Plugs **button** to view a list of **Core Plugs** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Core Plug** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting an Core Plug

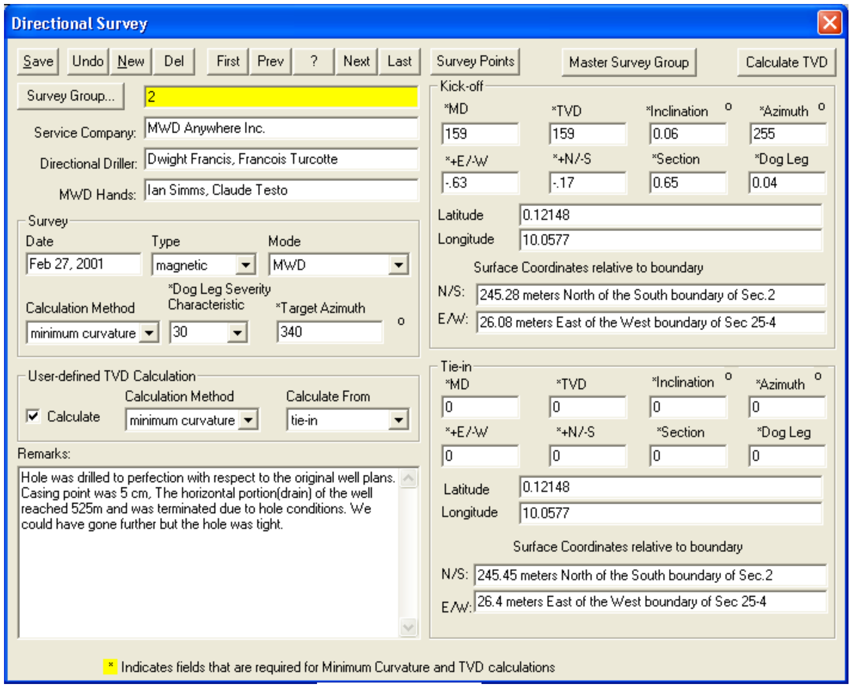
1. **Click** on the List Core Plugs **button** to view a list of **Core Plugs** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Core Plug** window, **click** on the Del **Delete button**.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Core Plug** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**. The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

Directional Survey

Information regarding Directional Surveys is entered into this window. This information can then be printed out in the Print Well End Report window. Also this information is utilized to build a True Vertical Depth and Subsea Level Depth view log presentations in Power*Log and Power*Core. The tie-in and kick-off information is critical to these calculations as well as the Target Azimuth and the Dog Leg Severity characteristics. Also the choosing of which survey group/groups you wish to use to do these calculations with in the Master Survey Group.

The information entered into can be used to produce four (4) separate reports as well as the TVD and SSL depth view Power*Log/Core presentations. The "***Directional Surveys***" report uses both the Groups information and its survey points. The "***Directional Survey Points***" report and the "***Deviation Survey Points***" uses the survey points only with two pieces of information (**Survey Type & Mode**) out of the group data entry window. The User can also print out the Master Survey Groups Survey points.



The Survey Points can be added through the Survey Points **button or directly through the Directional Survey layer Toolbox.**

Note: The **Survey Group** number is used to identify which group of survey points is associated with a specific **Directional Survey** layer on a log. Each **Directional Survey** layer can be associated with a specific group of survey points. This is done through the **Directional Survey Layer Configuration** window and selecting the group through its Dir. Survey... **button**.

The Master Survey Group **button** allows the user to build or compile the survey points from multiple or specific survey groups other than the default group 1.

The User Defined TVD Calculation portion of the window allows the user to define the default calculation method when the survey group's survey points are calculated.

The Calculate TVD **button** activates the TVD calculations window which can calculate the survey group, calculate the Master Survey group, update the well path, and calculate all the TVD fields in the various report window.

Adding a Directional Survey Group

1. **Click** on **Directional Survey** under the **Reports** menu selection or **click** on the **Directional Survey button** located on the toolbar.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Directional Survey Group

1. **Click** on the Survey Group... **button** to view a list of **Directional Survey Groups** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.

3. Once the selected interval is displayed in the **Directional Survey** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Directional Survey Group

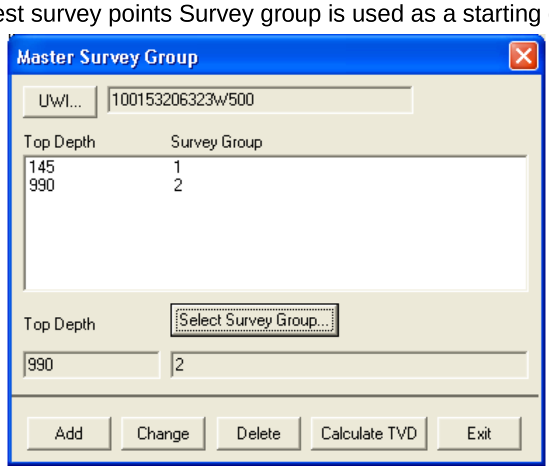
1. **Click** on the Survey Group... **button** to view a list of **Directional Survey Groups** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Directional Survey** window, **click** on the Del **Delete button**.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Directional Survey** window.
3. Then, **click** on the Del **Delete button**.
4. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Master Survey Group Button

Definition*: The user can imagine the master survey group as a compilation of multiple survey groups to define the well from spud to total depth. Power*Suite has enabled the user to enter multiple set of surveys from different measuring devises. The user can then take points from all the sets to build a Master Set of survey points that best defines the well path. This group is then compiled and then used to represent Power*Log/Core in the TVD/SSL depth views. This survey set is also used to calculate or interpolate TVD values for all measured depth fields. If the user only has one survey set and has kept the group name as 1 then the Master Survey group does not have to be assembled.*

How to Compile the Master Survey Group

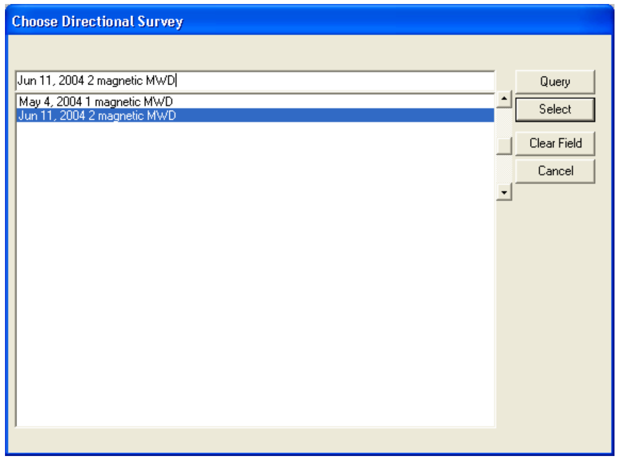
The user must identify which Survey Groups they want used for the TVD / SSL depth views of Power*Log/Core. The user must identify which group(s) of surveys and the starting survey point in that survey group. Once this is done the application then creates a Master Survey group that contains all the survey points from all the groups and there surveys points and then uses these to create the TVD and SSL presentations.
The Tie In or Kick of the shallowest survey points Survey group is used as a starting or reference point.



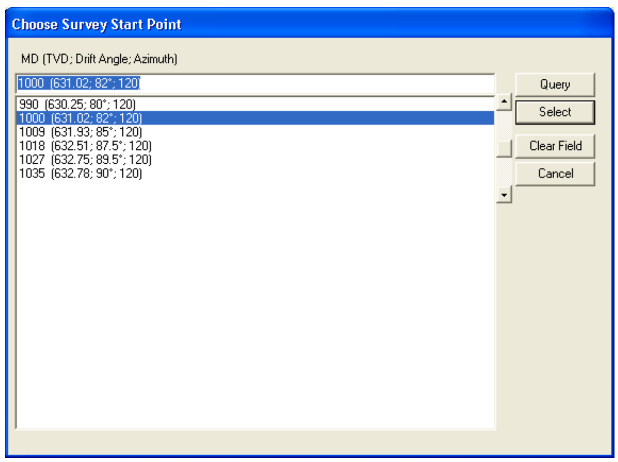
How to Add a Survey Group to the Master Survey Group

1. **Click** on the Master Survey Group **button** in the Directional Survey Window. This will activate the **Master Survey Group** window.

2. **Click** on the Select Survey Group... **button**. This will activate the **Choose Directional Survey** window.



3. **Click** on the Directional Survey group you wish to Add and then **click** on the Select **button**. This will activate the **Choose Survey Point** Window.

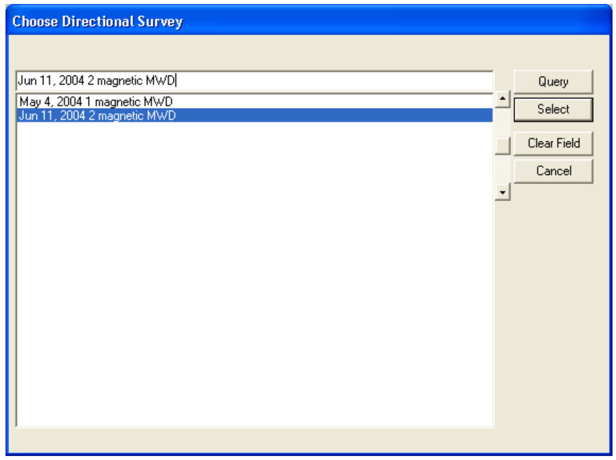


4. **Click** on the Survey point you wish to start with and then **click** on the Select **button**. This will place survey point's depth in the top depth field the Survey Group ID selected into the Survey Group ID field.
5. **Click** on the Add **button** and the Survey will be placed in the list.

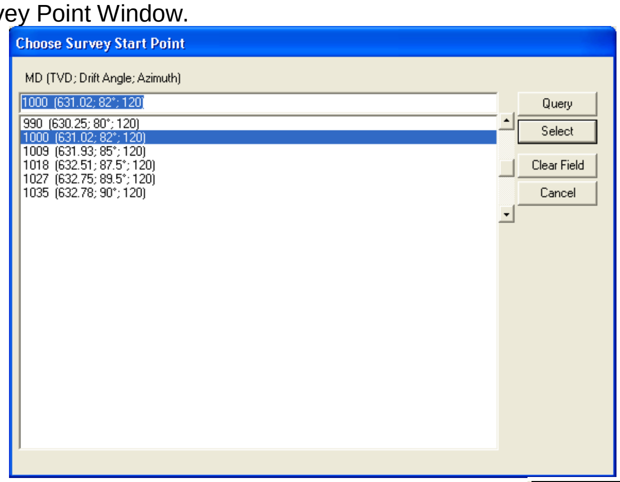
Note: This Survey and all subsequent surveys in this groups list will be added to the Master Survey Groups survey points until another Survey Group and its top depth has been added to the list.

How to Change a Survey Group top Survey Point

1. **Click** on the Master Survey Group **button** in the Directional Survey Window. This will activate the **Master Survey Group** window.
2. Highlight or **click** on the survey point you wish to change.
3. **Click** on the Select Survey Group... **button**. This will activate the **Choose Directional Survey** window.



4. **Click** on the Directional Survey group you wish to Change and then **click** on the Select **button.** This will activate the Choose Survey Point Window.



5. **Click** on the new Survey point you wish to start with and then **click** on the Select **button**.
6. This will place survey point's depth in the top depth field and the Survey Group ID selected into the Survey Group ID field.
7. **Click** on the Change **button** and the new Survey point will be placed in the list.

How to Delete a Survey Group

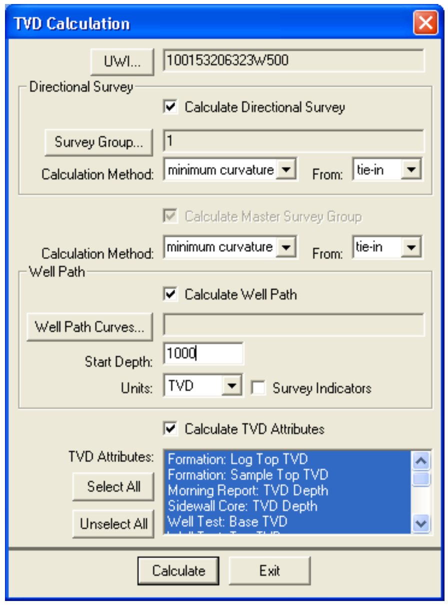
1. **Click** on the Master Survey Group **button** in the Directional Survey Window. This will activate the **Master Survey Group** window.
2. Highlight or **Click** on the Survey points Start depth and Group ID you wish to Delete and then **click** on the Delete **button**. This will delete the survey point and Groups ID from the list.

How to Calculate the Master Survey Group Survey Points

If the Master Survey group has been altered in any way and the user exits the window they will be prompted with a calculation window. The user will have to recalculate the master survey group for your changes to take affect.

1. **Click** on the Master Survey Group **button** in the **Directional Survey** window. This will activate the **Master Survey Group** window.

2. **Click** on the Calculate TVD **button**. This will activate the **TVD Calculation** window.



Directional Survey Portion

The User has the ability to have the program calculate the Directional Survey group, select which survey group they wish to calculate, which calculation method either minimum curvature or drift angle calculations and from either tie-in or kick off co-ordinates.

Procedure…

1. If the user wishes to calculate a Survey Group ☑ Calculate Directional Survey **activate the Check box** ☑ in this portion of the window.
2. If the default survey group is not correct **click** on the Survey Group... **button** and select the survey group you wish to calculate from the List.
3. **Select the Calculation method** from the drop box. (Minimum curvature calculation method must have an azimuth filled in for every survey point and will calculate all the fields in the Survey Points Window, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
4. **Select** the From Tie-In or Kick-Off **co-ordinates**

The defaults are picked up from the User defined TVD Calculation portion of the '**Directional Surveys Report**', found under the menu item "**Reports**". Kick Off is selected by default if not filled in. Remember that the data required for the **Kick Off** or **Tie In** reference is entered in the '**Directional Surveys Report'**, found under the menu item "**Reports**". Kick Off is selected by default.

Calculate Master Survey Portion:

The program will calculate the Directional Surveys into a Master Survey [SYSTEM] group. The user can determine which calculation method to use. The choices are either minimum curvature (all surveys have an azimuth) or drift angle calculations and from either tie-in or kick off co-ordinates. The Master Survey Group can be compiled with points from different Survey Groups. The Master Survey group is built in the Directional Survey window. If there is only one survey group this procedure is not required. **The Master Survey group will be built, utilizing Group 1 (one) surveys and if that does not exist then the first survey group record in the table. Those default surveys will then be used to perform all TVD / SSL Calculations within the application.**

Procedure…

1. **Select the Calculation method** from the drop box. (Minimum curvature calculation method must have an azimuth entry for every Survey Point, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
2. **Select** the From Tie-In or Kick-Off **co-ordinates**.

The defaults are picked up from the User defined TVD Calculation portion of the **'Directional Surveys Report' window from the survey group that has the shallowest survey point**, Kick Off is selected by default if not filled in. Remember that the data required for the **Kick Off** or **Tie In** reference is entered in the '**Directional Surveys Report'**, found under the menu item "**Reports**". Kick Off is selected by default.

Well Path Portion

The Well Path for lack of better terms will update any curve on your log with either TVD or SSL data and will start at any depth required. It basically plots a curve with respect to measured depth and the survey data's TVD calculations which can also be converted to SSL if a KB elevation has been entered into the Well Record located under the Edit menu.

Procedure…

1. If the user wishes to calculate or update the Well path curve Calculate Well Path **activate the Check box** in this portion of the window.
2. **Select** which **curve** you wish to populate with this data by **clicking** on the Well Path Curves... **button** and selecting the curve from the existing curve in the database.
3. **Type in** the **Start depth** for which the curve will first appear on the log.
4. **Select** which **units** you would like this curve to be plotted or updated with from the Units selection box. TVD is the direct calculations from the survey points. SSL are converted with respect to the wells Kelly Bushing Elevation.
5. **Select the Survey Indicators Check box** If the user wishes to have the survey points displayed at 45 degrees to the selected well path curve.

TVD Attributes Portion

Procedure…

1. If the user wishes to calculate or update the specified TVD fields within the various windows throughout the Reports Calculate TVD Attributes **activate the Check box** in this portion of the window.

The program is only able to determine the TVD at any depth covered by the directional surveys. Power*Log / Core & Curve have several windows in which the measured depth and corresponding true vertical depth are asked for. If you have directional surveys over that interval, the program will calculate the exact TVD for you. If it is outside the range of your surveys, it will be left as a manual entry.

2. Select or **click** on which fields (highlight) you wish to calculate for or recalculate if you have changed the survey data. Remember you have the ability to select all or unselect all.
3. **Click** on the Calculate **button**.

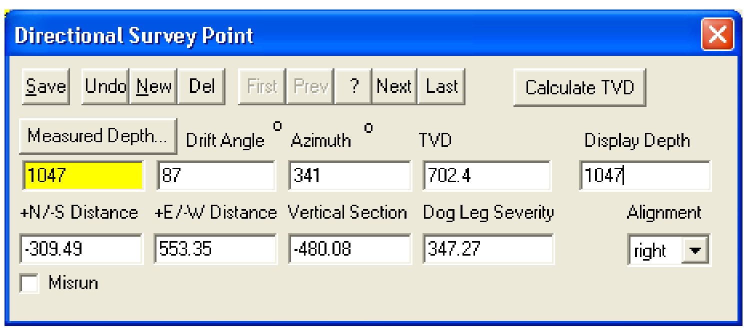
<u>Field Restriction Table:</u>

Survey Group	30	Character	Mandatory
Service Company	30	Character	Optional
Directional Driller	50	Character	Optional
MWD Hands	50	Character	Optional
Survey Type	20	Character	Optional
Survey Mode	20	Character	Optional
Survey Date	DATE FORMAT	Default=Current Date	Optional
Calculation Method	20	Character	Optional
Kick-off MD	10.5	Numeric	Required for calculations
Kick-off TVD	10.5	Numeric	Required for calculations
Kick-off Inclination	10.5	Numeric	Required for calculations
Kick-off Azimuth	10.5	Numeric	Required for calculations
Kick-off East meters	10.5	Numeric	Required for calculations
Kick-off North meters	10.5	Numeric	Required for calculations
Kick-off Section meters	10.5	Numeric	Required for calculations

Kick-off Dog Leg	10.5	Numeric	Required for calculations
Kick-off Latitude	5.7	Numeric	Optional
Kick-off Longitude	5.7	Numeric	Optional
Kick-off N/S	100	Character	Optional
Kick-off E/W	100	Character	Optional
Tie-in MD	10.5	Numeric	Required for calculations
Tie-in TVD	10.5	Numeric	Required for calculations
Tie-in Inclination	10.5	Numeric	Required for calculations
Tie-in Azimuth	10.5	Numeric	Required for calculations
Tie-in East meters	10.5	Numeric	Required for calculations
Tie-in North meters	10.5	Numeric	Required for calculations
Tie-in Section meters	10.5	Numeric	Required for calculations
Tie-in Dog Leg	10.5	Numeric	Required for calculations
Tie-in Latitude	5.7	Numeric	Optional
Tie-in Longitude	5.7	Numeric	Optional
Tie-in N/S	100	Character	Optional
Tie-in E/W	100	Character	Optional
Dog Leg Characteristic	4.0	Numeric	Required for calculations
Target Azimuth	5.2	Numeric	Required for calculations
Remarks	254	Character	Optional

Directional Survey Point Window

This window is accessed through the **Directional Survey Report** window, the **Well** window, or through the **Directional Survey** layer **Toolbox**. These points can be viewed on the log through a **Directional Survey** layer or can be printed from the **Print Well End Report** window. Directional Surveys can be imported from ASCII files supplied by Directional Drillers.



Use the **Database Navigational Tools** to scroll through the existing records or **click** on the **Measured Depth** button to view a list of the survey points, that already exist within the database.

Adding a New Record

1. **Click** on **Directional Survey** under the **Reports** menu selection. Then **click** on the Survey Points **button** to activate the **Directional Survey Point** window shown above.
2. **Click** on the New **button or press ALT-N.**
3. **Enter any appropriate information** into the empty fields.

<u>Note</u>: If you have information for the ***Measured Depth***, ***Drift Angle*** and ***Azimuth*** fields, the rest of the fields can be calculated for you.

See Chapter Five - Options Menu: Directional Survey Import - Overview

4. **Select an Alignment**, if you want to view the Directional Survey Point(s) on the track that contains the survey layer. The default Alignment is always **<u>right</u>**. However, if you select a <u>blank</u> Alignment from the Alignment field drop box, your Directional Survey Point(s) will <u>not</u> be displayed on the survey layer, but they will still be printed out through the Print Well End Report window.

5. The user can display the Survey data at a different depth than what the survey was take at if that depth is not the best place to show that data. **Type in a display depth** in the Display depth field and the information will be shown according t the above alignment and the display depth field. The line where the survey data stays where the survey was taken.

Note: The information that is shown on the **Directional Survey** layer is a line that is always placed on the right side of the track at the **Measured Depth**, **Drift Angle**, **Azimuth**, and **TVD**. The rest of the information goes to the **Print Well End Report**.

6. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.
7. After the record has been saved the user can then **select** the Calculate TVD **button** to perform either Drift Angle or Minimum Curvature calculations from either the tie-in or kick-off points.

Note: The drift angle calculations uses minimum curvature but we assume an azimuth for all the survey points so we can do some TVD calculation's to produce interpolated TVD's as well as produce a TVD / SSL log.

Editing a Directional Survey Point

1. **Click** on the Measured Depth... **button** to view a list of **Directional Survey Points** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools First Prev ? Next Last s to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Directional Survey Point** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Directional Survey Point

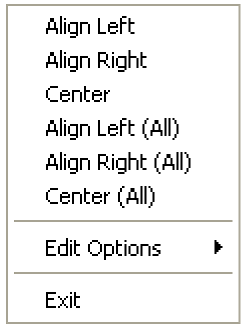
1. **Click** on the Measured Depth... **button** to view a list of **Directional Survey Points** to date and then **double click** on the record that you wish to delete.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Directional Survey Point** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Indicating a Misrun

To indicate a Misrun, enter in the measured depth (MD) of the survey and simply check the **Misrun** check box ☑ to flag this survey as a misrun. Misruns will be excluded from any calculations performed on the surveys, and will be labeled in the appropriate **End of Well** reports.

Aligning All Directional Survey Points

1. Make the **Directional Survey Points** layer active within the track by clicking on the track and then selecting the **Directional Survey Points** layer from the **Layer Selection List** field.
2. **Right click** anywhere within the **Directional Survey Points** layer to activate the pop-up menu.



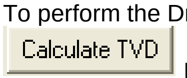
3. **Click** on **Align Left (All), Align Right (All)** or **Center (All)** to align all the directional survey points accordingly.

Moving the Directional Survey data (Drag and Drop Data) on the Layer.

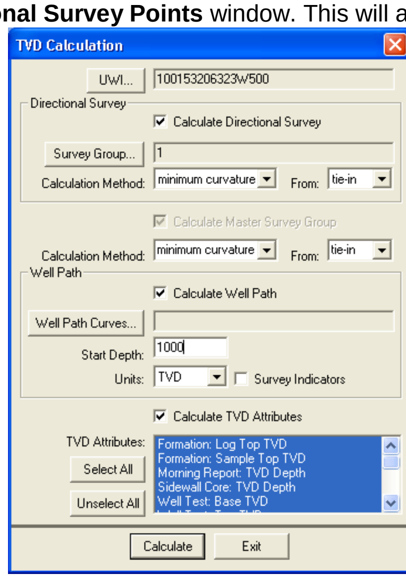
1. Make the **Directional Survey** layer active within the track by clicking on the track and then selecting the **Casing** layer from the **Layer Selection List** field.
2. **Double click** on the **Layer** to activate the Directional Survey Points Data entry window.
3. **Depress and Hold** the **CTRL key** (on the keypad) and **click** on the **Directional Survey information** and drag your mouse to a new location on the layer. You will see the outline of the data moving with your mouse pointer. **Let your mouse pointer go** and the information will be placed at that new location. **Release the Ctrl key.**
4. **Repeat Step** 3 to move more Directional Survey Information on a layer.

Calculating Directional Survey Points

To perform the Drift angle or Minimum Curvature calculations on your directional surveys, **click** on the

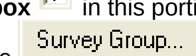


button in the **Directional Survey Points** window. This will activate the **TVD Calculation** window.



Directional Survey Portion:
The User has the ability to have the program calculate the Directional Survey group, select which survey group they wish to calculate, which calculation method either minimum curvature or drift angle calculations and from either tie-in or kick off co-ordinates.
Procedure…

1. 

Activate the Check box  in this portion of the window.
2. If the default survey group is not correct, **click** on the 

button and select the survey group you wish to calculate from the List.

3. **Select the Calculation method** from the drop box. (Minimum curvature must have an azimuth and will fill in all the fields in the Survey Points Window, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
4. **Select** the From Tie-In or Kick-Off **co-ordinates**

> The defaults are picked up from the User defined TVD Calculation portion of the '**Directional Surveys Report'**, found under the menu item "**Reports**". Kick Off is selected by default if not filled in. Remember that the data required for the **Kick Off** or **Tie In** reference is entered in the '**Directional Surveys Report'**, found under the menu item "**Reports**". Kick Off is selected by default

Calculate Master Survey Portion:

The program will calculate the Directional Surveys into a Master Survey [SYSTEM] group. The user can determine which calculation method to use. The choices are either minimum curvature (all surveys have an azimuth) or drift angle calculations and from either tie-in or kick off co-ordinates. The Master Survey Group can be compiled with points from different Survey Groups. The Master Survey group is built in the Directional Survey window. If there is only one survey group this procedure is not required. **The Master Survey group will be built, utilizing Group 1 (one) surveys and if that does not exist then the first survey group record in the table. Those default surveys will then be used to perform all TVD / SSL Calculations within the application.**

1. **Select the Calculation method** from the drop box. (Minimum curvature calculation method must have an azimuth entry for every Survey Point, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
2. **Select** the From Tie-In or Kick-Off **co-ordinates**.

> The defaults are picked up from the User defined TVD Calculation portion of the '**Directional Surveys Report' window from the survey group that has the shallowest survey point**, Kick Off is selected by default if not filled in. Remember that the data required for the **Kick Off** or **Tie In** reference is entered in the '**Directional Surveys Report'**, found under the menu item "**Reports**". Kick Off is selected by default

Well Path Portion

The Well Path for lack of better terms will update any curve on your log with either TVD or SSL data and will start at any depth required. It basically plots a curve with respect to measured depth and the survey data's TVD calculations which can also be converted to SSL if a KB elevation has been entered into the Well Record located under the Edit menu.

Procedure…

1. If the user wishes to calculate or update the Well path curve Calculate Well Path **activate the Check box** in this portion of the window.
2. **Select** which **curve** you wish to populate with this data **by clicking** on the Well Path Curves... **button** and selecting the curve from the existing curve in the database.
3. **Type in** the **Start depth** for which the curve will first appear on the log.
4. **Select** which **units** you would like this curve to be plotted or updated with from the Units selection box. TVD is the direct calculations from the survey points. SSL are converted with respect to the wells Kelly Bushing Elevation.
5. **Select** the **Survey Indicators** check box If the user wishes to have the survey points displayed at 45 degrees to the selected well path curve on their horizontal log.

TVD Attributes Portion

Procedure…

1. If the user wishes to calculate or update the specified TVD fields within the various windows throughout the Reports Calculate TVD Attributes **activate the Check box** in this portion of the window.

> The program is only able to determine the TVD at any depth covered by the directional surveys. Power*Log and Power*Curve have several windows in which the measured depth and corresponding true vertical depth are asked for. If you have directional surveys over that interval, the program will calculate the exact TVD for you. If it is outside the range of your surveys, it will be left as a manual entry.

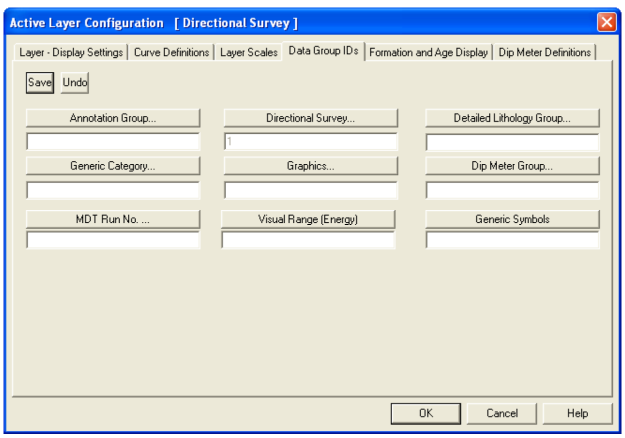
2. Select or **click** on which fields (highlight) you wish to calculate for or recalculate if you have changed the survey data. Remember you have the ability to select all or unselect all.

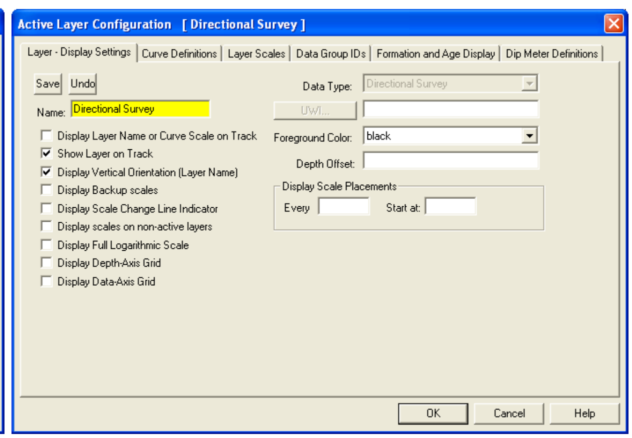
3. **Click** on the Calculate **button**.

Directional Survey Points Window Field Restriction Table:

Measured Depth	5.2	Numeric	Mandatory
Drift Angle	4.6	Numeric	Optional
Azimuth	4.6	Numeric	Optional
TVD Depth	5.2	Numeric	Optional
N/S Distance	13.2	Numeric	Optional
E/W Distance	13.2	Numeric	Optional
Vertical Section	13.2	Numeric	Optional
Dog Leg Severity	4.2	Numeric	Optional

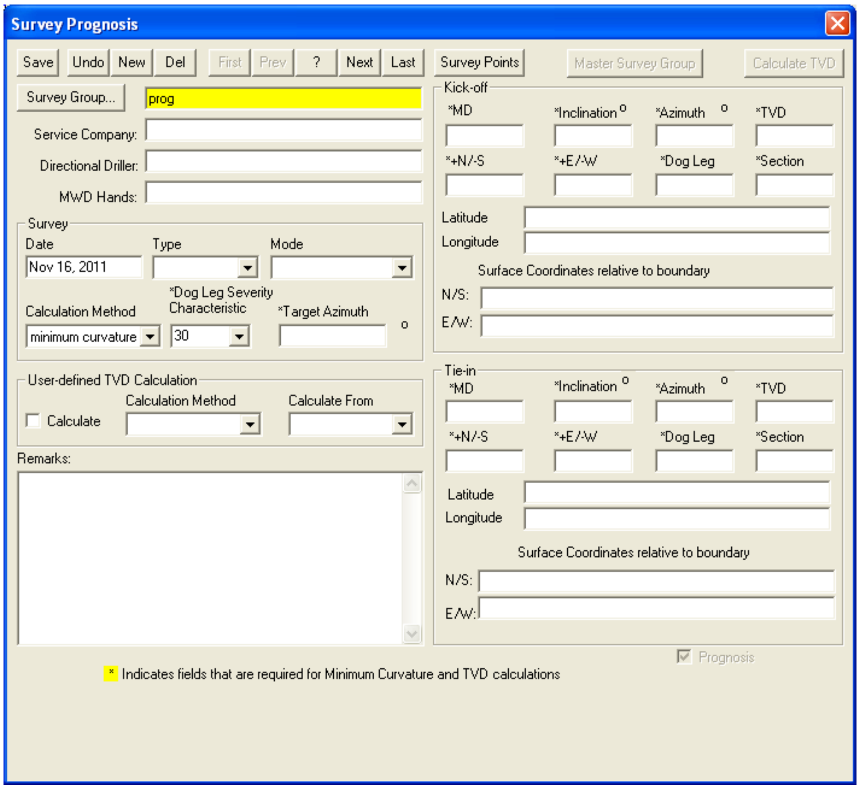
Note: When you add any layer to a log, it is always associated with a Data Type. Every Data Type in Power*Log / Core & Curve has a default setting. The default settings for a Directional Survey layer are shown below. To access this window, click on the **Layer Configuration button** on the Toolbar, when the layer is active. Notice that this Directional Survey is directed at Reference ID 1 and its associated Survey Points.





Survey Prognosis

Information regarding the Prognosed Drilling of the well that was first designed by the Directional Drilling Contractor which will be followed during the drilling of the well. This report is designed to get the designed or prognosed well path into the Survey View application so there is some comparison between the actual well path and the prognosed well path. The Survey Group data is captured into this window.



N.B. The **only data** that is required in this window is the **Survey group ID** and you should identify it well as you will probably have to use the **Import Survey Tool** to import all the relative survey data or you will be typing a lot of data into the survey points into the Survey Points window.

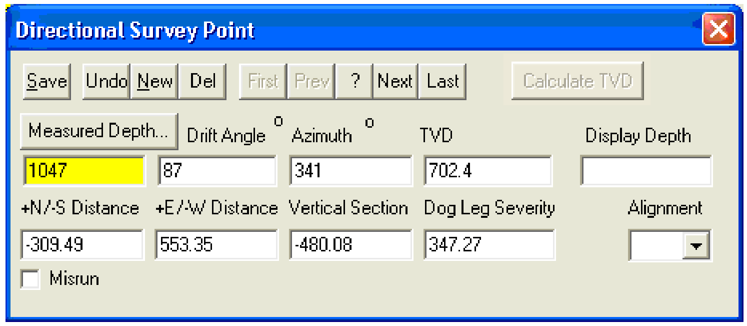
The Survey Points can be added through the Survey Points **button or directly through the Directional Survey layer Toolbox. It would probably be easier to import the surveys from a *.csv file format.**

Adding a Directional Survey Group

1. **Click** on **Survey Prognosis** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N**.
3. Type in a Survey group ID in the Survey Group field. In the example above we have used **Prog** and then **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Directional Survey Point Window

This window can only be accessed through the **Survey Prognosis Report** window, the **Well** window. Directional Surveys can be imported from ASCII files supplied by Directional Drillers. If they only have an Excel spreadsheet is must be first saved as a *.csv file format that can then be imported into the Prog Survey group or whatever character you supplied for the Survey Prognosis.



Use the **Database Navigational Tools** to scroll through the existing records or **click** on the **Measured Depth** button to view a list of the survey points, that already exist within the database.

Adding a New Record

1. **Click** on **Directional Survey** under the **Reports** menu selection. Then **click** on the Survey Points **button** to activate the **Directional Survey Point** window shown above.
2. **Click** on the New **button or press ALT-N.**
3. **Enter any appropriate information** into the empty fields.

Note: You must type in all the data except for Dog Leg Severity which is not applicable to the Survey Views application.

4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Directional Survey Point

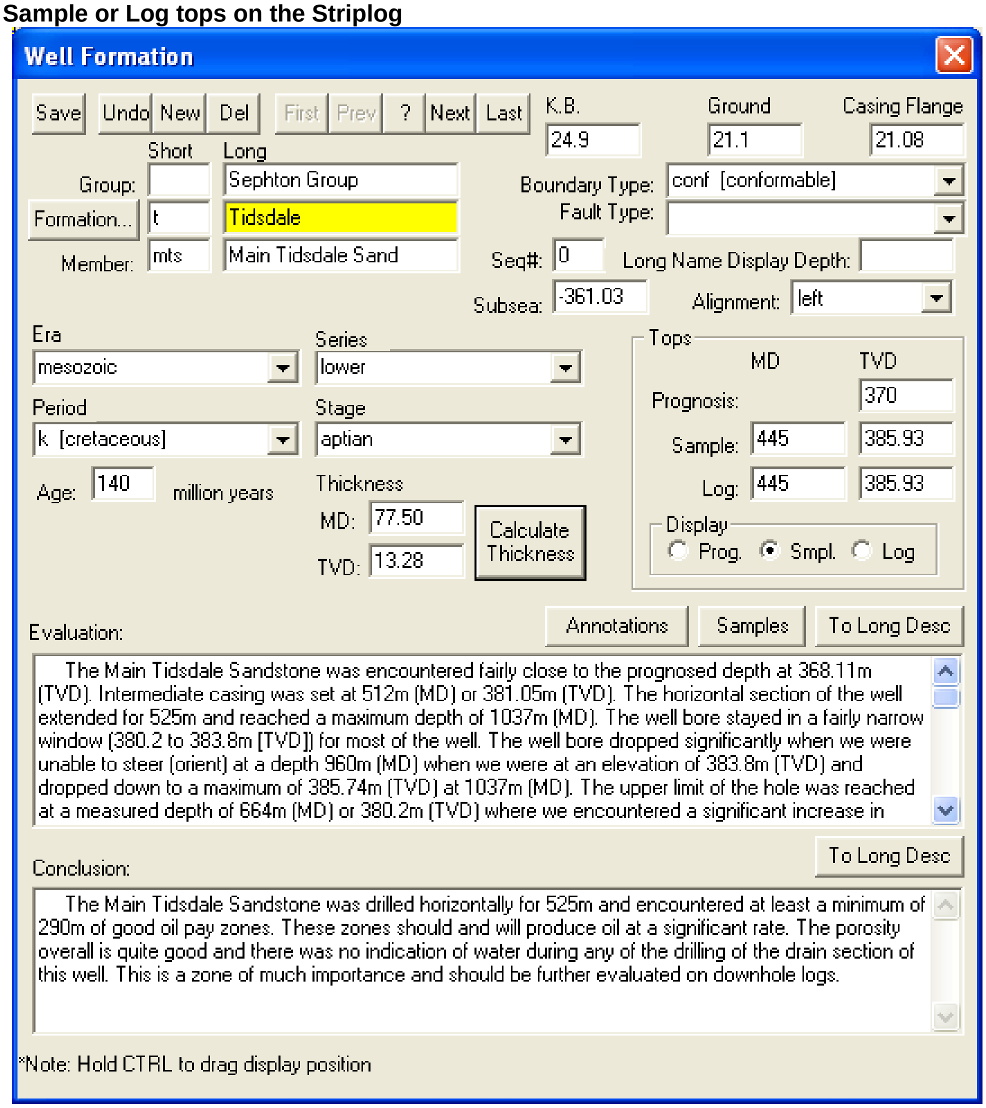
1. **Click** on the Measured Depth... **button** to view a list of **Directional Survey Points** to date and then **double click** on the record that you wish to edit.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Directional Survey Point** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Directional Survey Point

1. **Click** on the Measured Depth... **button** to view a list of **Directional Survey Points** to date and then **double click** on the record that you wish to delete.
2. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Directional Survey Point** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Formation

Enter the details of any Formation into this window. This information is then printed out in 3 different reports and can be place on the striplog in 4 different formats. The reports this information generates would be a Formation Top Summary, Formation Evaluation Report and the Sample Description report with Tops and the Morning Report Formation report. These reports can be printed using the Print Well End Report and the Print Morning Report windows. The Formations can also go on the striplog as a Short Name, Long Name with TVD and SSL Depths and expanded format along with the Ages. The user can also choose between showing the Prognosis, Sample or Log tops on the Striplog

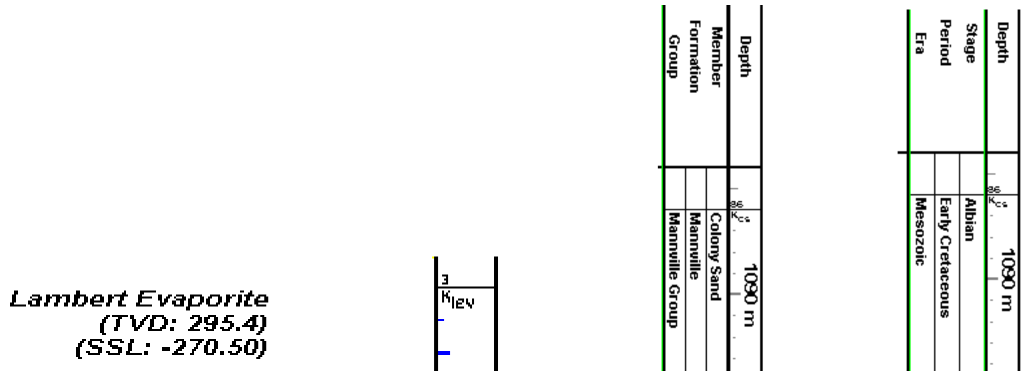


Well Formation Window - Overview

K.B., Ground, and Casing - This information is displayed based on the **Well** information that you entered in the **Well** window. The Well window can be located under the Edit Menu Selection.

Formation... **Button - Click** on the Formation... **button** to display the list of **Formations** and **Sample Tops** that have been entered to date. **Double click** on the **Formation** or highlight the **Formation** and click on the **Select** button to edit or view the **Formation**.

Group, Formation, and Member (short and long) - Type in the short and long name for the **Group**, **Formation**, and **Member** names. Only the **Formation** long name is a mandatory field. The short name will be added to the formation short name layer display on the log coupled with the short period name and the measured depth.



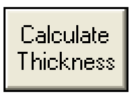
Formation Tops Long Name **Short Name** **Expanded Layer** **Ages Layer**

<u>Sequence Number</u> - The Seq # field can be used to override the order that the formations are printed out in the well end and morning reports.

<u>Era, Series, Period, and Stage</u> - Use the drop box methods to access the various **Eras** on the lists. Note that the **Period** chosen will affect the list in the **Stage** drop box.

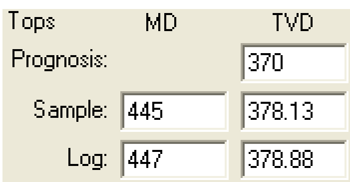
Age – You may enter the estimated geological age of this formation in this field.

Thickness MD– The user may enter the measured depth thickness of this formation into this field.



Thickness TVD – The user may enter the true vertical depth thickness of this formation into this field.

Button calculates the Measured Depth and True Vertical Depth thickness between this formation and the next formation in the list.



<u>Tops Depth section -</u> You may enter the **Measured Depths** and **True Vertical Depths** in these fields. If you have entered survey point data and have filled in or calculated the TVD fields and you have a survey point above and below the depth of this formation the True Vertical depths will be calculated for the user.

Note: Formations are normally ordered by their depths starting with Log Tops TVD, then MD followed by Sample Top TVD, then MD and lastly by Prognosis Tops TVD in all the well end and morning reports where the tops are generated.

<u>Subsea</u> - This is calculated from the depths entered in the **Tops** section and the **K.B.** elevation that you entered in the **Well** window**.**

Subsea is calculated successively using the following data respectively: Prognosis depth, Sample Top (MD), Sample Top (TVD), Log Top (MD), and finally Log Top (TVD).

<u>Alignment</u> - This is used to align the **Formation Top** in a **Formation** (long name) layer, using **Format 2** in the **Layer Configuration** window. The following choices are available from this drop box: **Left**, **Middle**, **Right**, and **Blank**. Leave this box **blank**, if you don't want the **Formation Top** to be shown on the layer, but still want the **Formation Top** to be printed out via the **Well End Report** window. If you are using the **Formation** layer in more than one track, you should beware of layer overlapping. You will discover which the best alignment for all layers is. You have one selection for all layers using this format.

Long Name Display Depth field is defaulted to empty (Display Long name data at the sample top measured depth). The user can change the display depth for the Long Name by typing in a depth in this field.

Display Options on the tops allows the user to show the Prognosis top, the Sample top or the Log top on the Log. This applies to all the display options on the Formations and Ages Layers

Button - **Click** on the 

button to activate the Transfer Sample Description window from which you may copy Sample/Core Descriptions into either the Evaluation and/or Conclusion fields. See "*Copying a Sample/Core Description*" in the Table of Contents for more information.

Annotations Button – Click on the Annotations Button to activate the Transfer Annotations window from which you may copy Lithology Descriptions into either the Evaluation and/or Conclusion fields. See “Transfer *annotation*” in the Table of Contents for more information.

<u>Evaluation</u> - Type in the Formation Evaluation pertaining to the lithology, etc…. You may use the short forms and then click on the To Long Desc button to lengthen the descriptions.

<u>Conclusion</u> - Type in the Formation Conclusion pertaining to hydrocarbon potential. You may use the short forms and then click on the To Long Desc button to lengthen the descriptions.

Adding a Formation Top

1. **Click** on **Formation** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Formation Top

1. **Click** on the Formation... **button** to view a list of **Formations** to date and then **double click** on the record that you wish to edit.
2. Or use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Formation** window, make any changes you feel are necessary.

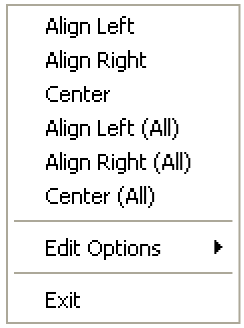
Click on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Formation Top

1. **Click** on the Formation... **button** to view a list of **Formations** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Formation** window, **click** on the Del **Delete button**.
2. Or use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Formation** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

Aligning All the Formation Tops

1. Make the Formation Tops layer active within the track by clicking on the track and then selecting the Formation Tops layer from the **Layer Selection List** field.
2. **Right click** anywhere within the **Formation Tops** layer to activate the pop-up menu.



3. **Click** on **Align Left (All), Align Right (All)** or **Center (All)** to align all the Formation Tops accordingly.

Moving the Formation Top Data (Drag and Drop) on the Layer.

1. Make the Formation Top layer active within the track by clicking on the track and then selecting the **Formation Top** layer from the **Layer Selection List** field.
2. **Double click** on the **Layer** to activate the Directional Survey Points Data entry window.
3. **Depress and Hold** the **CTRL key** (on the keypad) and **click** on the **Formation Top information** and drag your mouse to a new location on the layer. You will see the outline of the data moving with your mouse pointer. **Let your mouse pointer go** and the information will be placed at that new location. **Release the Ctrl key.**
4. **Repeat Step** 3 to move more Formation Top Information on a layer.

The 

button will restore the window to the settings of the last saved record.

You can **Tab** between fields or **press Shift + Tab** to move backwards between fields.

Field Restriction Table:

Group (short)	5	Character	Optional
Group	30	Character	Optional
Formation (short)	5	Character	Optional
Formation	30	Character	Mandatory
Member (short)	5	Character	Optional
Era	30	Character	Optional
Series	30	Character	Optional
Period	30	Character	Optional
Stage	30	Character	Optional
Age	7.3	Numeric	Optional
Boundary Type	30	Character	Optional
Fault Type	30	Character	Optional
MD Sample	5.2	Numeric	Optional
MD Log	5.2	Numeric	Optional
TVD Prognosis	5.2	Numeric	Optional
TVD Sample	5.2	Numeric	Optional
TVD Log	5.2	Numeric	Optional
Evaluation	40000	Character	Optional
Conclusion	40000	Character	Optional
Thickness MD	10.5	Numeric	Optional
Thickness TVD	10.5	Numeric	Optional

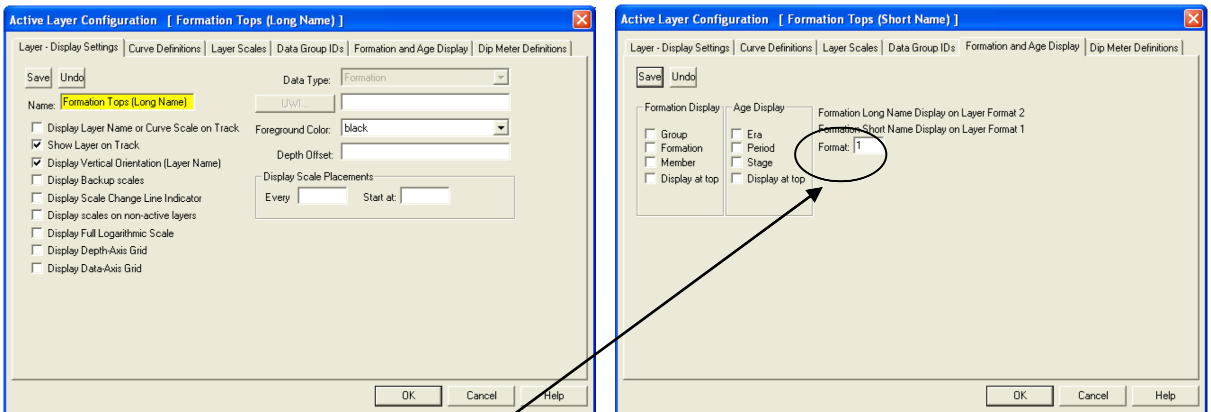
Note: In order to have the **Formation Evaluation** report printed, there are two fields that must be filled in: **Boundary Type** and **Period**. If these fields are left blank, the **Formation Evaluation Report** for that **Formation** will **NOT** be printed**.**

Note: **Format 1** displays **Period** (short name), **Formation** (short name field), a **Bedding Line**, and the last two digits of the **Sample Top**.
Format 2 gives the **Formation Name** in long form True Vertical Depth **TVD** and Sub Sea Value **SSL**. This format data can be viewed in the Layer Configuration window with Formation data types. The Display depth field will only alter the Long Name format.

Also, the Ages (Era / Period / Stage) [Ages Track] as well as tops (Group / Formation / Member) [Formations Track] can be displayed along the log.

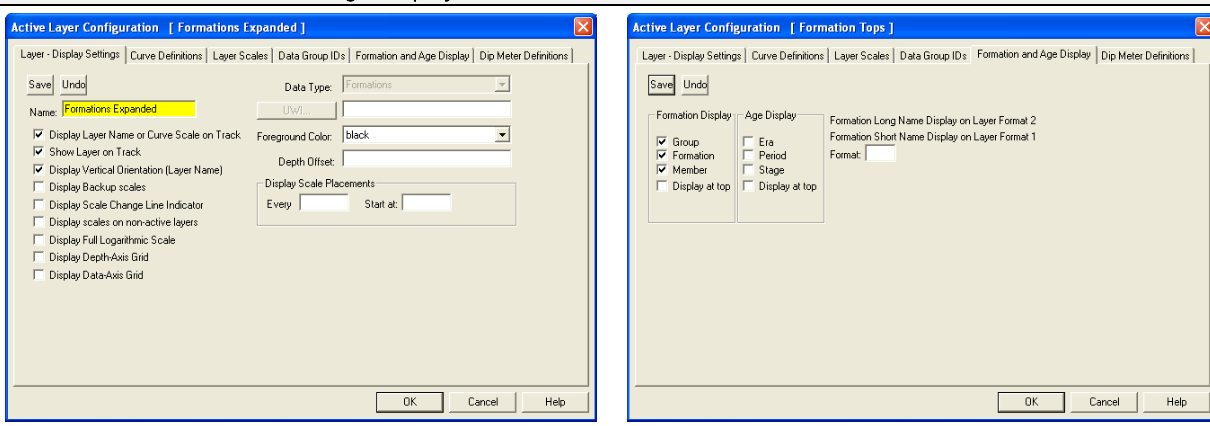
Formation Tops are automatically generated in the **Morning Report** from the **Formation Tops** that are entered into the **Well Formation** window. The depths entered into the **Morning Report** window are used to generate the **Morning Formation Top** report list. However, before a list can be generated, two (2) reports must be filled in to initiate a range. If your **Sample Tops** are located between these two (2) depths, the **Formation Tops** will then come out in the **Morning**

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Formations** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Formations** layer is active.



Format 1: Short Names
Format 2: Long Names

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Formation** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Formation** layer is active and then click on the Formation and Age Display Tab.

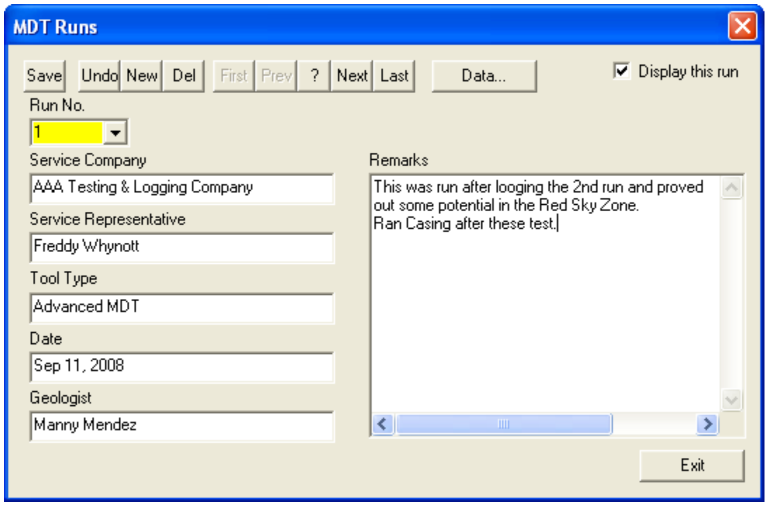


Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for an layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Ages** layer is active and then click on the Formation and Age Display Tab.

MDT

MDT Report window information is entered into the window shown below. This information fills in the header of the MDT Test report. The indications for the MDT Test Locations are handled through the MDT Data Entry windows. The MDT Run #1 is added automatically when you add the MDT Layer to your striplog.

The actual **MDT Data** is entered through the Data... **button**, located in the upper right side of the MDT Runs Window. . The values can be entered into the report manually or can be imported through the Import MDT Data Utility. *Refer to Import MDT Data Utility*



Adding a MDT Run

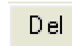
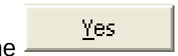
2. **Click** on **MDT,** under the **Reports** menu selection, to activate the **MDT Runs** window.
3. **Click** on the New **button or press ALT-N**.
4. **Type** in the **Run Number Field press** the **Tab key** to advance the cursor to the next field.
5. **Type** and **Tab** between all the fields and Fill in the appropriate information.
6. When you have finished entering your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a MDT Run

1. **Click** on the Run No. 1 **drop box** to view a list of **MDT Runs** to date and then **click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Sidewall Core Runs** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a MDT Run

1. **Click** on the Run No. 1 **drop box** to view a list of **MDT Runs** to date and then **click** on the record that you wish to delete. Once the selected record is displayed in the **MDT Runs** window, **click** on the Del **Delete button**.

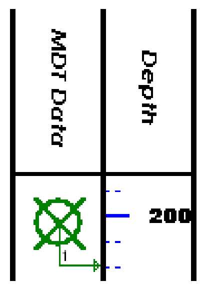
2. Or, use the Database Navigational Tools  to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **MDT Runs** window. Then, **click** on the  **Delete button**.
3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the  **button**.

Field Restriction Table:

Run Number	4	Numeric	Mandatory
Service Company	160	Character	Optional
Service Representative	160	Character	Optional
Tool Type.	254	Character	Optional
Date	DATE FORMAT	Default=Current Date	Optional
Geologist	60	Character	Optional
Remarks	40,000	Character	Optional

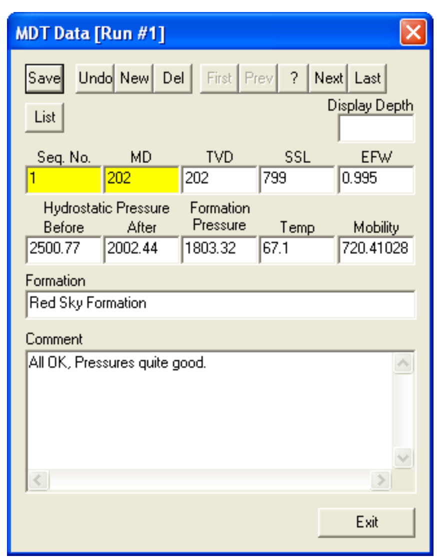
MDT Data Window

This report allows you to enter MDT Data manually or view the data once it has been imported through the Import MDT Data Utility. The MDT locations can be viewed on the MDT layer.



Adding an MDT record manually

1. **Click** on **MDT** under the **Reports** menu selection.
2. **Click** on the  **button.** This will activate the MDT Data window.



3. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
4. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing MDT Data

1. **Click** on the List **button** to view a list of MDT Data to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Core Plug** window, make any changes you feel are necessary.

   Click on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting MDT Data

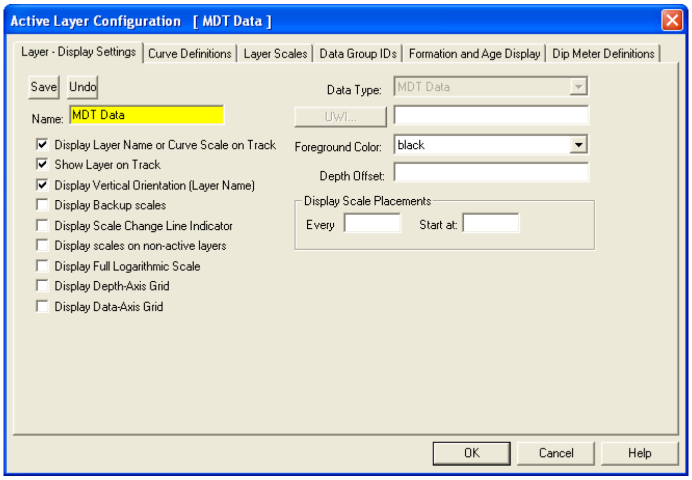
1. **Click** on the List **button** to view a list of MDT Data to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Core Plug** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Core Plug** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

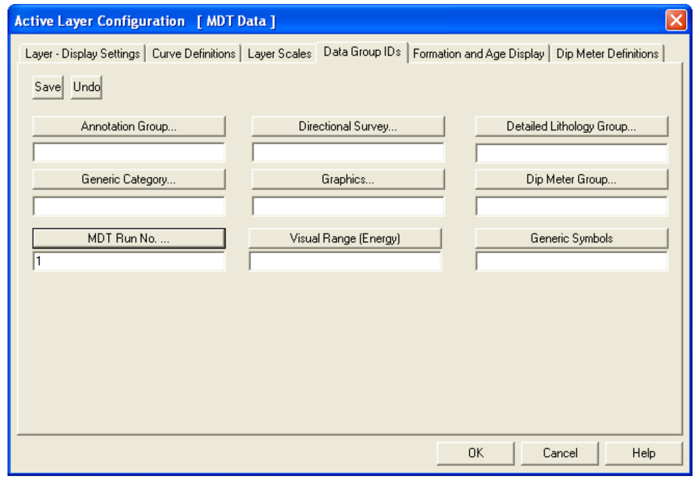
The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.
Field Restriction Table:

Seq No.	4	Numeric	Mandatory
Depth (MD)	10.4	Numeric	Mandatory
Depth (TVD)	10.4	Numeric	Optional
Depth (SSL)	10.4	Numeric	Optional
Display Depth (MD)	10.4	Numeric	Optional
EFW Estimated Fluid Weight	10.4	Numeric	Optional
Hydrostatic Pressure Before	10.4	Numeric	Optional
Hydrostatic Pressure After	10.4	Numeric	Optional
Formation Pressure	10.4	Numeric	Optional
Temperature	10.4	Numeric	Optional
Mobility	10.4	Numeric	Optional
Formation	254	Character	Optional
Comments	40,000	Character	Optional

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **MDT** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.

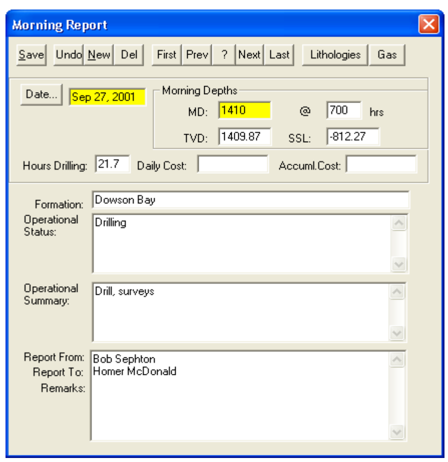




Morning Report

This window gathers information to include in your Morning Reports. Simply enter the requested criteria into the window and then this information can be printed out, using the Print Morning Report window. This report is combined with the Lithology information to give you the Summary and Lithology Reports.

<u>This is the Morning Report window:</u>



Adding a Morning Report

1. **Click** on **Morning Report** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.

Note: If the Directional Survey points are already calculated, the Morning Depth [TVD] field will be calculated as soon as you type in a value in the Morning Depth [MD] field. Otherwise, the Morning Depth [TVD] field will show the same value that has been typed in the Morning Depth [MD] field.

3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Morning Report

1. **Click** on the Date... **button** to view a list of **Morning Reports** classified by date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Morning Report** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Morning Report

1. **Click** on the Date... **button** to view a list of **Morning Reports** classified by date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Morning Report** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Morning Report** window. Then **Click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

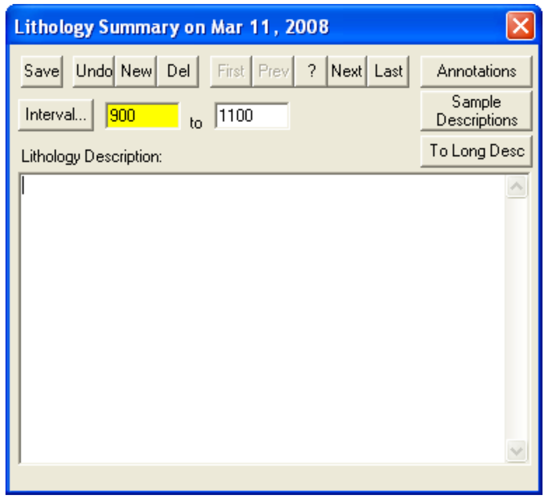
You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

Field Restriction Table:

Date	DATE FORMAT	Default=Current Date	Mandatory
Morning Depth	5.2	Numeric	Mandatory
Morning Depth (TVD)	5.2	Numeric	Optional
Morning Depth (SSL)	5.2	Numeric	Optional
Report Time	4.0	Default=800 Hrs	Optional
Hours Drilling	2.1	Numeric	Optional
Daily Cost	8.2	Numeric	Optional
Formation	50	Character	Optional
Operational Status	40000	Character	Optional
Operational Summary	40000	Character	Optional
Remarks	40000	Character	

Lithology Summary

This is the window that appears when you **click** on the Lithologies **button**. This information can be printed out in the Morning Report. The Lithology Report is combined with the Morning Report to give you a Summary and Lithology Report.



The Annotations **button** gets you to the **Transfer Annotations** window. Here the user can transfer single or multiple lithology descriptions or annotations from their striplog into their AM Lithology Summary report.

The Sample Descriptions **button** gets you to the **Transfer Sample Description** window. Here the user can transfer single or multiple sample descriptions into their AM Lithology Summary report.

The To Long Desc **button** expands the abbreviated text you have typed in the **Lithology Description** field.

Adding a Lithology Summary

1. **Click** on **Morning Report** under the **Reports** menu selection. Then **click** on the Lithologies **button** to activate the **Lithology Summary** window shown above.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Transferring a Sample/Core Description into the Morning Lithology Report
See "Transferring a Sample/Core Description" on the following page for more information.

Editing a Lithology Summary

1. **Click** on the Interval... **button** to view a list of **Lithology Summaries** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Formation** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Lithology Summary

1. **Click** on the Interval... **button** to view a list of **Lithology Summaries** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Lithology Summary** window, **click** on the Del **Delete button**.

2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Lithology Summary** window. Then **Click** on the Del **Delete button**.

3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

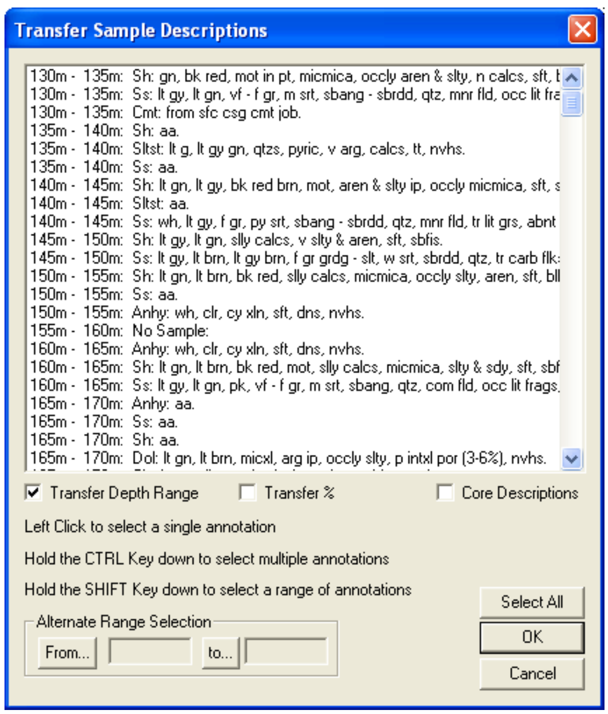
Field Restriction Table:

Top Depth	5.2	Numeric	Mandatory
Base Depth	5.2	Numeric	Optional
Lithology Description	40000	Character	Optional

Transferring a Sample Description

1. **Click** on the Sample Descriptions **button**, in the **Lithology Summary** or the **Well Formation** window, to activate the **Transfer Sample Description** window.

2. If you want to transfer Core Descriptions activate the Core Descriptions check box and you will see your core descriptions.



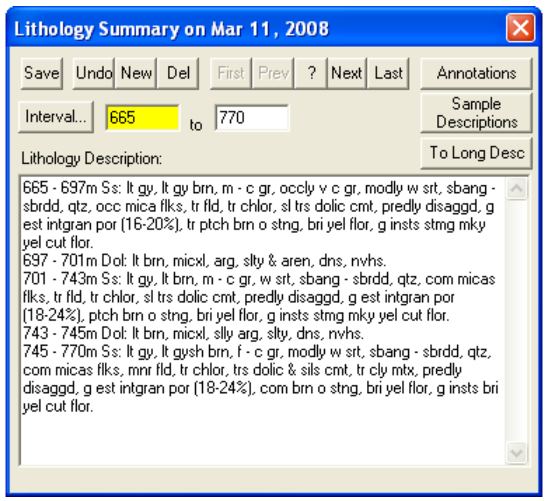
3. To transfer a **single description Click** on a **Description** to highlight the description in this window and then **click** on the OK **button**. This will place the description in the Lithology Summary Window. Or, to transfer **multiple description, Click** on a **Description** in this window then **hold down** the **CTRL Key** and **click** on subsequent **descriptions** to highlight them. Then **click** on the OK **button**. This will place all the descriptions in the Lithology Summary Window

4. To Transfer a **range of descriptions Click** on a Description in this window then **hold down** the **SHIFT Key** and **click** on the last **descriptions** to highlight the entire range. You can also **hold down** the **CTRL Key** and **click** on

subsequent **descriptions** to highlight them. Then, **click** on the OK **button**. This will place all the highlighted descriptions in the Lithology Summary Window.

OR the Alternate Range Selection Utility

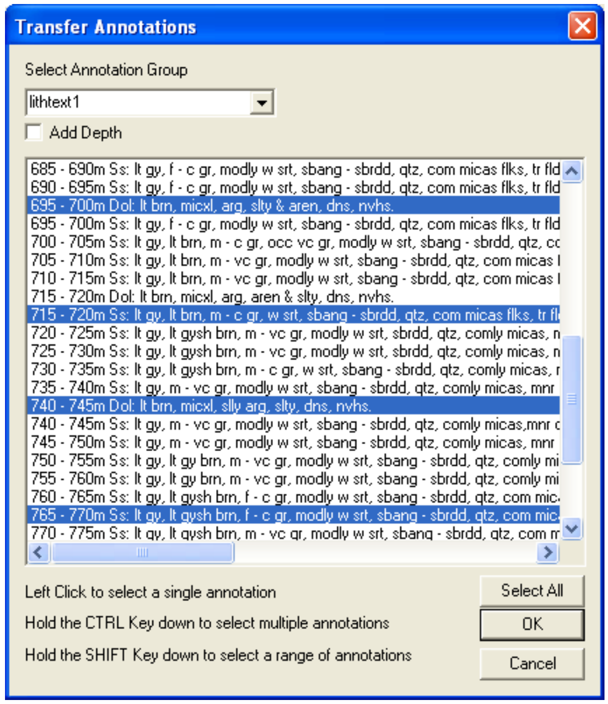
1. Or **click** on the From... **button** to select the starting depth of the <u>first</u> interval that you wish to transfer.
2. **Click** on the to... **button** and select the starting depth of the <u>last</u> interval to be transferred.
3. Then **click** on the OK **button**. This will place all the highlighted descriptions in the Lithology Summary Window.



5. **Type** in the **From** and **To** Interval fields in this Lithology Summary window.
6. **Click** on the To Long Desc **button** if you want the abbreviated descriptions expanded to a long form**.**
7. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

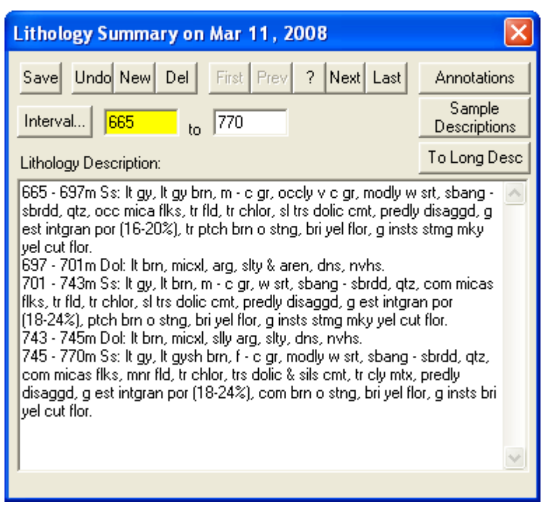
Transferring Lithology Descriptions from the Striplog.

1. **Click** on the Annotations **button**, in the **Lithology Summary** or the **Well Formation** window, to activate the **Transfer Sample Description** window.
2. To Select a different Annotation group [Select Annotation Group: lithtext1] and **Click** on the **down arrow** and **select** from any group associated with your log. The default group is lithtext1.
3. If the User has not transferred or utilized any Depths on the striplog you may want to **activate** the ☐ Add Depth **check box** to add the depth where the annotation is found on the log.



4. To transfer a **single annotation, Click** on an **annotation** to highlight the annotation in this window and then click on the OK button. This will place the annotation in the Lithology Summary Window. Or, to transfer **multiple annotation, Click** on a annotation in this window then **hold down** the **CTRL Key** and **click** on subsequent annotations to highlight them. Then **click** on the OK **button**. This will place all the annotation in the Lithology Summary Window

5. To Transfer a **range of annotation Click** on a **annotation** in this window then **hold down** the **SHIFT Key** and **click** on the **last annotation** to highlight the entire range. You can also **hold down** the **CTRL Key** and **click** on subsequent **annotations** to highlight them. Then, **click** on the OK **button**. This will place all the highlighted annotations in the Lithology Summary Window.



8. **Type** in the **From** and **To** Interval fields in this Lithology Summary window.

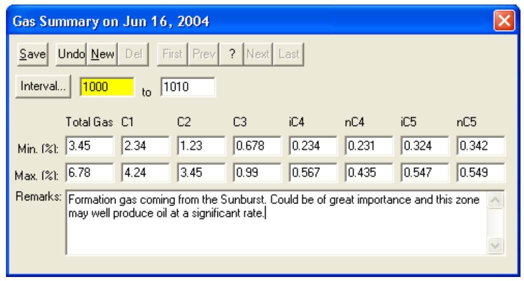
9. **Click** on the To Long Desc **button** if you want the abbreviated descriptions expanded to a long form**.**

10. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Gas Summary

This is the window that appears when you **click** on the Gas **button**. The **Gas** information can be printed out, for each report date, in the **Morning Report**.

> **Note:** All gasses are entered in percentage (%) form and the **C4's** and **C5's** will be totaled for you in the final **Morning Gas Report**



Adding a Gas Summary

1. **Click** on **Morning Report** under the **Reports** menu selection. Then **click** on the Gas **button** to activate the **Gas Summary** window shown above.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Gas Summary

1. **Click** on the Interval... **button** to view a list of **Gas Summaries** to date and then **double click** on the record that you wish to edit.
2. Or Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Gas Summary** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Gas Summary

1. **Click** on the Interval... **button** to view a list of **Gas Summaries** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Gas Summary** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Gas Summary** window. Then, **click** on the Del **Delete button**.

3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

Field Restriction Table:

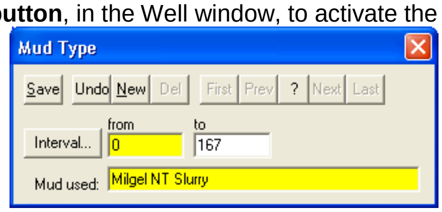
Top Depth	5.2	Numeric	Mandatory
Base Depth	5.2	Numeric	Optional
All fields	3.3	Numeric	Optional
Remarks	40000	Character	Optional

Mud Type

This window allows you to detail the depths used for each drilling fluid type. There are two ways of accessing this report: in the Well window, as described in Steps 1 - 3 below, or under Reports on the Menu Bar.

Adding a Mud Type

1. **Click** on **Well**, under the **Edit** menu selection, to open the Well window and it will default to the active well.
2. **Click** on the Well Name... **button** to activate a list of well names and then **double click** on the well you wish to work on.
3. **Click** on the Mud Types **button**, in the Well window, to activate the **Mud Type** window shown below:



4. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
5. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Note: The information entered into this window creates the **Mud Type** report generated within the **Print Well End Report** window

Editing a Mud Type

1. **Click** on the Interval... **button** to view a list of **Mud Types** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Mud Type** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Mud Type

1. **Click** on the **button** to view a list of **Mud Types** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Mud Type** window, **click** on the **Delete button**.
2. Or, use the Database Navigational Tools to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Mud Type** window. Then **Click** on the **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the **button**.

The **button** will restore the window to the settings of the last saved record.
You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

__**Field Restriction Table:**__

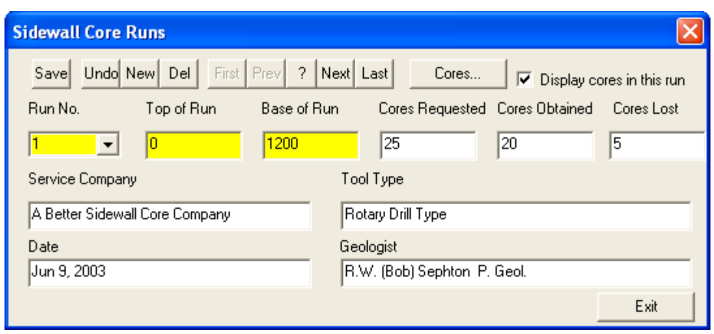
Top Depth	5.5	Numeric	Optional
Base Depth	5.5	Numeric	Optional
Mud Type Used	50	Character	Optional

Sidewall Cores

Sidewall Core information is entered into the window shown below. This information fills in the header of the Sidewall Core. The indications for the sidewall cores are handled through the Sidewall Cores window.

The actual **Sidewall Core Descriptions** are entered through the **button**, located in the upper right corner of the Sidewall Core Runs Window. These **Sidewall Core Descriptions** will then be used in the **Well End Report** print window's "***Sidewall Core Report***".

__**Note**__**:** The **Sidewall Core Report** will <u>not</u> print out, until you have completed at least **one** (**1**) **Core Description** that falls <u>between</u> the **Core's Interval** (Top of Run) and **Interval** (Base of Run) depth values.



Adding a Sidewall Core Run

1. **Click** on **Sidewall Core,** under the **Reports** menu selection, to activate the **Sidewall Core Runs** window.
2. **Click** on the **button or press ALT-N**.
3. **Type** in a **Run number** and then **press** the **Tab key** to advance the cursor to the Top of Run field.
4. **Type** in the **Top of Run depth** and then **press** the **Tab key** to advance the cursor to the Base of Run field.
5. **Type** in the **Base of Run depth** and **tab** through the other fields filling in the necessary information.
6. When you have finished entering your data, **click** on the **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Sidewall Core Run

1. **Click** on the Run No. 1 **drop box** to view a list of **Sidewall Cores Runs** to date and then **click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Sidewall Core Runs** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Sidewall Core Run

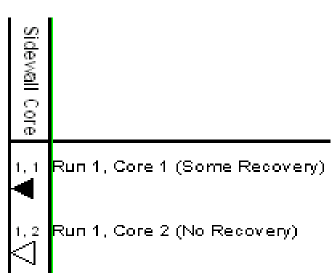
1. **Click** on the Run No. 1 **drop box** to view a list of **Sidewall Cores Runs** to date and then **click** on the record that you wish to delete. Once the selected record is displayed in the **Sidewall Core Runs** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Sidewall Core Runs** window. Then **Click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Field Restriction Table:

Run Number	4	Numeric	Mandatory
Top of Run	10.5	Numeric	Mandatory
Base of Run	10.5	Numeric	Mandatory
Cores Requested	4	Numeric	Optional
Cores Obtained	4	Numeric	Optional
Cores Lost	4	Numeric	Optional
Service Company	60	Character	Optional
Tool Type.	30	Character	Optional
Date	DATE FORMAT		Optional
Geologist	60	Character	Optional

Sidewall Core Descriptions

This report allows you to describe a Sidewall Core. The long descriptions will be used in the Sidewall Core Description Report that is printed out in the Well End Report print window. The descriptions can also be transferred to the Striplog and the core locations can be viewed on the Sidewall Core layer.



Note: If the descriptions are entered into this Sidewall Core Description report and transferred to the Striplog and then edited on the striplog the descriptions entered in this Sidewall Core Description reports remain unchanged.

The 

drop box displays a list of descriptions that have been entered to date for the Sidewall coring run for the active well.

The 

button expands the text you can type in the **Short Description** field and places them in the **Long Description** field

The 

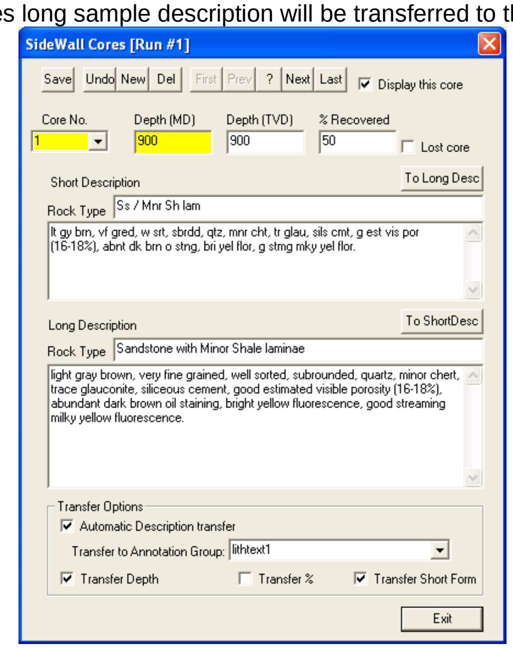
button abbreviates the text you can type in the **Long Description** field and places them in the **Short Description** field. The Long descriptions are automatically updated from the short Description field when the short description is typed in.

Automatic Description Transfer Options

The **Automatic Description transfer** check box when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lithtext1, the second log created for a well will have a lithology description layer identified with a group called lithtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth** check box when activated will transfer the core depth to the log.
The **Transfer %** check box when activated will transfer the core recovery % to the log.
The **Transfer Short Form** check box when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.



Adding a Sidewall Core Description

1. **Click** on **Sidewall Cores,** under the **Reports** menu selection, to activate the **Sidewall Core Runs** window.
2. The user must fill in the Mandatory fields in the **Sidewall Core Runs** window and save this record before you can **click** on Cores... **button** in the **Sidewall Core Runs** window.
3. If any descriptions have been entered for the current well, the last description will be displayed. If there is a description then the user must first **click** on the New **button** to clear the form and make it ready to accept a new record. Otherwise, the cursor will be in the **Core No** field.
4. **Type** in the **Core No**. and **press** the **Tab key** to advance to the Core depth (MD) field.
5. **Type** in the **Core Depth** (MD) and **press** the **Tab key** to advance to the TVD depth field.
6. If the survey data has been entered this field will be filled in for you. If not you may **type** in the Core Depth TVD or leave the field blank and **press** the **Tab key** to advance to the % recovery field.
7. **Type** in the **% Recovered** and **press** the **Tab key** to advance to the Rock type short description.
8. **Type** in the **Rock Type** short name and **press** the **Tab key** to advance to the Short description field.
9. **Type** the **Short** (abbreviated) **Description** into the **Short Description** field.

Note: Any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.

When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.

10. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Note: You also have the option of typing out the non-abbreviated form of the **Sidewall Core Descriptions** into the **Long Description** field and then clicking on the To ShortDesc **button** to display the abbreviated form of the **Sidewall Core Descriptions** in the **Short Description** field.

11. To add a new description, **click** on the New **button or press ALT-N** and repeat **Steps 4** to **10.**

Note: IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the Save **button or press ALT-S** every time you finish entering a new record.

Editing a Core Description

1. **Click** on the Core No. 1 **drop box** to view a list of **Sidewall Core Descriptions** to date and then **click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Sidewall Cores** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Core Description

1. **Click** on the Core No. 1 **drop box** to view a list of **Sidewall Core Descriptions** to date and then **click** on the record that you wish to delete. Once the selected record is displayed in the **Sidewall Core Runs** window, **click** on the Del **Delete button**.

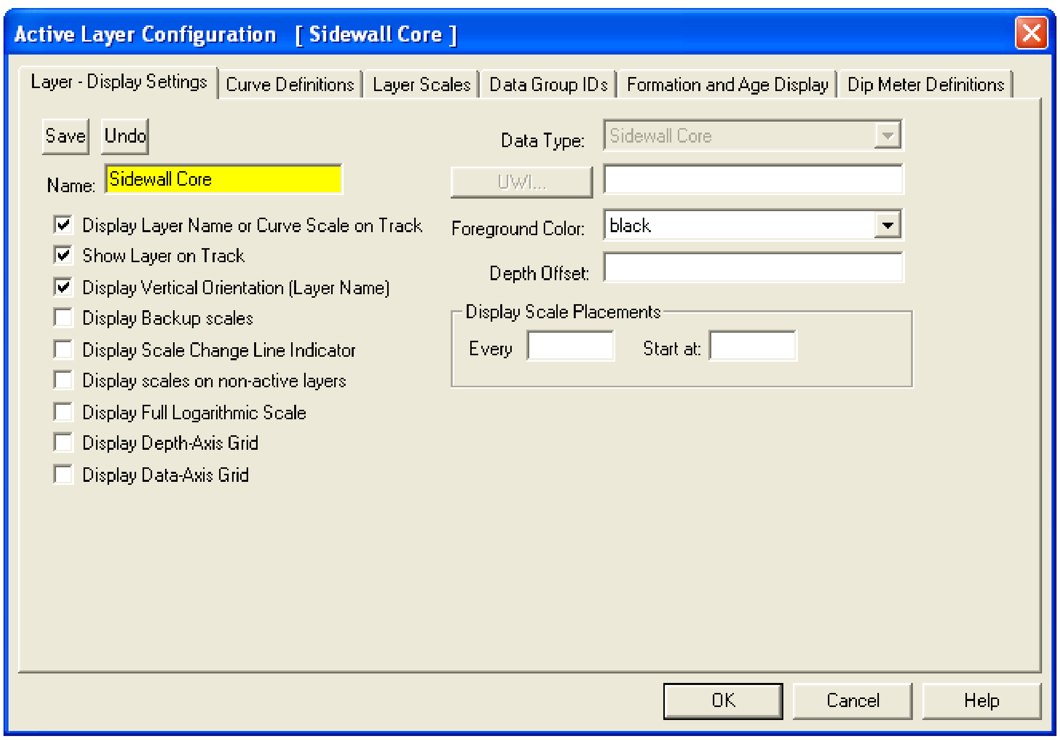
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Sidewall Cores** window. Then **Click** on the Del **Delete button**.

3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Field Restriction Table:

Core No.	4	Numeric	Mandatory
Depth (MD)	10.5	Numeric	Mandatory
Depth (TVD)	10.5	Numeric	Optional
% Recovered	5.2	Numeric	Optional
Rock Type (SD)	50	Character	Optional
Short Description	40000	Character	Optional
Rock Type (LD)	50	Character	Optional
Long Description	40000	Character	Optional

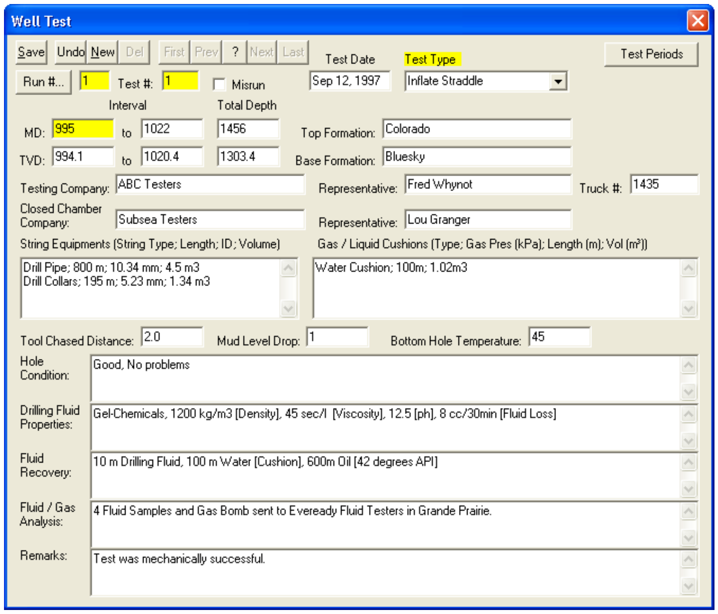
Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **Sidewall Core** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.



Test

This window is used to capture Well Test data. This data can be printed out, using the Print Well End Report window.

<u>Note</u>: The **Test Interval** is used to show the interval in the **Test** layer on the log, however, if the **Misrun** check box is activated the interval will <u>not</u> be shown on the log.



Adding a Test

1. **Click** on **Test** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

<u>Note</u>: A Test Record will only be partially printed if no test periods are filled in. **Click** on the Test Periods **button** to enter at least 1 (one) test period for every test unless it is a misrun.

Editing a Test

1. **Click** on the Run #... **button** to view a list of **Tests** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Well Test** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Test

1. **Click** on the **button** to view a list of **Tests** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Well Test** window, **click** on the **Delete button**.
2. Or, use the Database Navigational Tools to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Well Test** window. Then, **click** on the **Delete button**.
3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the **button**.

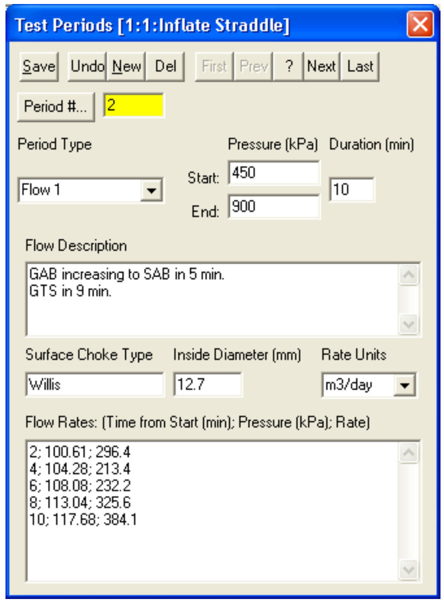
You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

<u>Field Restriction Table:</u>

Well Test Window

Run Number	4.0	Numeric	Mandatory
Test Number	4	Character	Mandatory
Test Date	DATE FORMAT		Optional
Test Type	30	Character	Mandatory
Top MD	5.2	Numeric	Mandatory
Base MD	5.2	Numeric	Optional
Total MD	5.2	Numeric	Optional
Top TVD	5.2	Numeric	Optional
Base TVD	5.2	Numeric	Optional
Total TVD	5.2	Numeric	Optional
Top Formation	30	Character	Optional
Base Formation	30	Character	Optional
Testing Company	30	Character	Optional
Testing Rep.	30	Character	Optional
Truck Number	10	Character	Optional
Closed Chamber Co.	30	Character	Optional
Closed Chamber Rep.	30	Character	Optional
String Equipment	40000	Character	Optional
Gas/Liquid Cushions	100	Character	Optional
Tool Chased Dist.	3.1	Numeric	Optional
Mud Level Drop	3.2	Numeric	Optional
Bottom Hole Temp	3.2	Numeric	Optional
Hole Conditions	40000	Character	Optional
Drilling Fluid Prop.	40000	Character	Optional
Fluid Recovery	40000	Character	Optional
Fluid/Gas Analysis	40000	Character	Optional
Remarks	40000	Character	Optional

The following window appears when you **click** on the Test Periods **button**:



A typical period is a sequential series of letters or numbers (1, 2, 3... or a, b, c...).

Adding a Test Period

1. **Click** on **Test** under the **Reports** menu selection. Then **click** on the Test Periods **button** to activate the **Test Periods** window shown above.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Test Period

1. **Click** on the Period #... **button** to view a list of **Test Periods** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Test Periods** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Test Period

1. **Click** on the Period #... **button** to view a list of **Test Periods** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Test Periods** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Test Periods** window. Then, **click** on the Del **Delete button**.

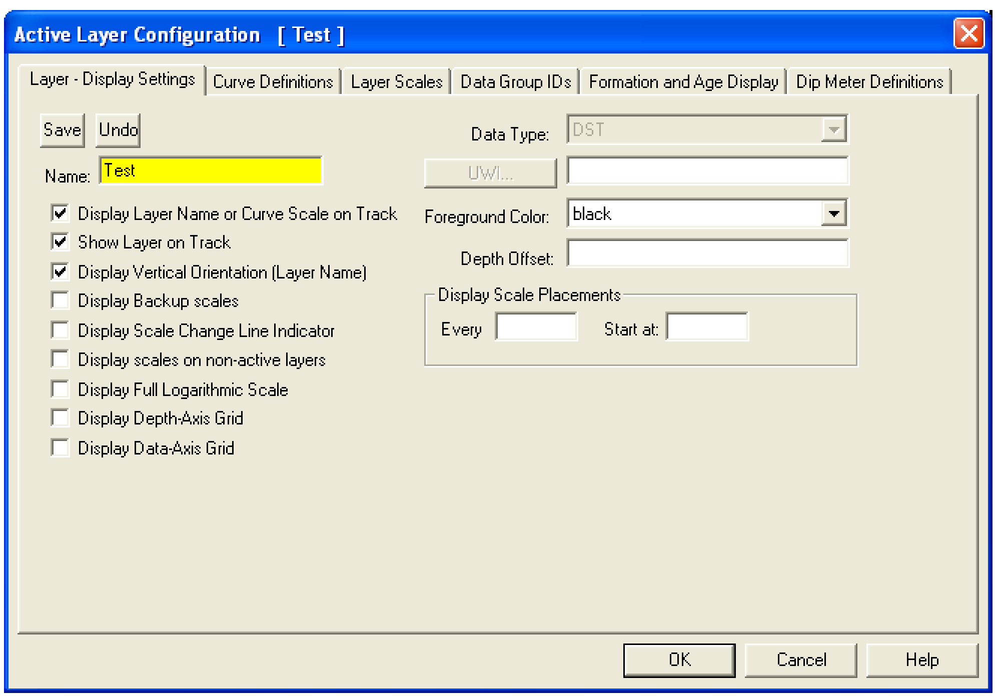
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**. The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

Field Restriction Table:
Test Period:

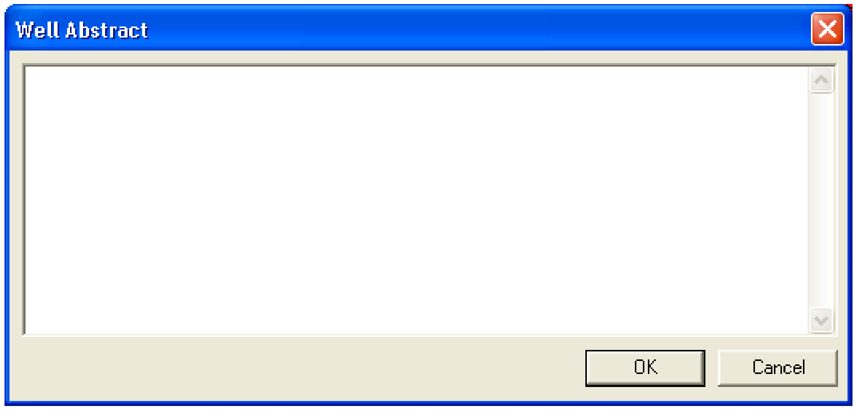
Period Number	4.0	Numeric	Mandatory
Period Type	30	Character	Optional
Start Pressure	6.2	Numeric	Optional
End Pressure	6.2	Numeric	Optional
Duration	4.0	Numeric	Optional
Flow Description	40000	Character	Optional
Surface Choke Type	10	Character	Optional
Inside Diameter	5.2	Numeric	Optional
Rate Units	10	Character	Optional
Flow Rates	40000	Character	Optional

Note: When you add any layer to a log, it is always associated with a **Data Type**. The default settings for a **Test** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Test** layer is active.

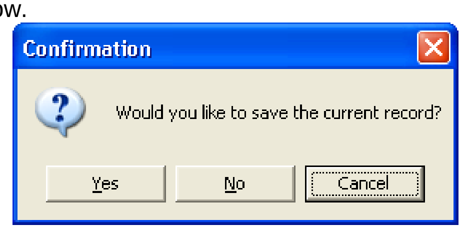


Well Abstract

This window is used to allow the user to enter Well Abstract data. This data can be printed out, using the Print Well End Report window.



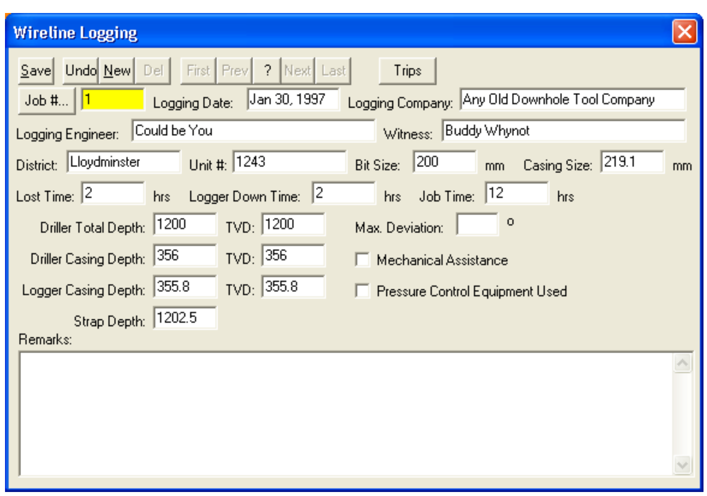
1. **Click** on **Well Abstract** under the **Reports** menu selection to activate the **Well Abstract** window shown above.
2. Add, edit or delete comments regarding the particular well and **click** on the OK **button.** This will activate the **Confirmation** window.



3. **Click** on the Yes **button** to save the current record.

Wireline Logging

Wireline Logging descriptions are entered into this window and then this information, accompanied by the Trips data, can be printed out in your Print Well End Report window.



Adding a Wireline Logging Run

1. **Click** on **Wireline Logging** under the **Reports** menu selection.

2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Wireline Logging Run

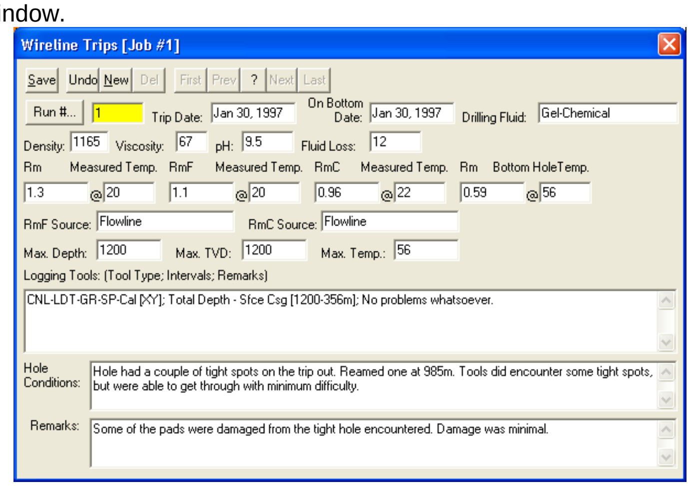
1. **Click** on the Job #... **button** to view a list of **Wireline Logs** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Wireline Logging** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Wireline Logging Run

1. **Click** on the Job #... **button** to view a list of **Wireline Logs** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Wireline Logging** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Wireline Logging** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Adding a Wireline Trip

1. **Click** on **Wireline Logging** under the **Reports** menu selection. Then **click** on the Trips **button** to activate the **Wireline Trips** window.



4. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
5. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Wireline Trip

1. **Click** on the Run #... **button** to view a list of **Wireline Log Trips** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Wireline Trips** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Wireline Trip

1. **Click** on the Run #... **button** to view a list of **Wireline Log Trips** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Wireline Trips** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Wireline Trips** window. Then, **click** on the Del **Delete button**. The user will be prompted with a confirmation "Do you really want to delete?"
3. **Click** on the Yes **button**.

Field Restriction Table:

Wireline Logging

Job Number	20	Character	Optional
Logging Date	DATE FORMAT	Default=Current Date	Optional
Logging Company	30	Character	Optional
Logging Engineer	30	Character	Optional
Witness	30	Character	Optional
District	30	Character	Optional
Unit Number	10	Character	Optional
Bit Size	3.2	Numeric	Optional
Casing Size	4.2	Numeric	Optional
Lost Time	4.2	Numeric	Optional
Logger Down Time	4.2	Numeric	Optional
Job Time	4.2	Numeric	Optional
Max Deviation	3.1	Numeric	Optional
Driller Total Depth	5.2	Numeric	Optional
Driller Total TVD	5.2	Numeric	Optional
Driller Casing Depth	5.2	Numeric	Optional
Driller Casing TVD	5.2	Numeric	Optional
Logger Casing Depth	5.2	Numeric	Optional
Logger Casing TVD	5.2	Numeric	Optional
Steel Line Depth	5.2	Numeric	Optional

Wireline Trips

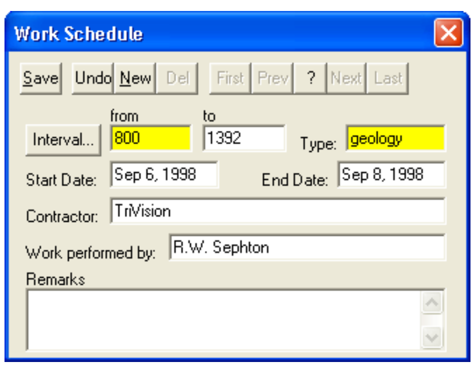
Run Number	3.0	Numeric	Mandatory
Trip Date	DATE FORMAT		Optional
On Bottom Date	DATE FORMAT		Optional
Drilling Fluid	40000	Character	Optional
Density	4.1	Numeric	Optional
Viscosity	3.0	Numeric	Optional
pH	2.1	Numeric	Optional
Fluid Loss	3.1	Numeric	Optional
Rm	4.4	Numeric	Optional
Rm Temperature	3.2	Numeric	Optional
RmF	4.4	Numeric	Optional
RmF Temperature	3.2	Numeric	Optional
RmC	4.4	Numeric	Optional
RmC Temperature	3.2	Numeric	Optional
Rm BH	4.4	Numeric	Optional
Rm BH Temp	3.2	Numeric	Optional
RmF Source	20	Character	Optional
RmC Source	20	Character	Optional
Max. Depth	5.2	Numeric	Optional
Max. TVD	5.2	Numeric	Optional
Max. Temp	3.2	Numeric	Optional
Logging Tools	40000	Character	Optional
Hole Conditions	40000	Character	Optional
Remarks	40000	Character	Optional

Work Schedule

This window allows you to identify the Dates and Depths of the striplog that each author has created. There are two ways of accessing this report: in the Well window or under Reports on the Menu Bar.

Adding a Work Schedule

1. **Click** on **Work Schedule**, under the **Reports** menu selection, to activate the **Work Schedule** window shown below.



1. **Click** on the  **button or press ALT-N** and then fill in the report window with your data.
2. **Click** on the  **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Work Schedule

1. **Click** on the Interval... **button** to view a list of **Work Schedules** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Work Schedule** window, make any changes you feel are necessary.
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Work Schedule

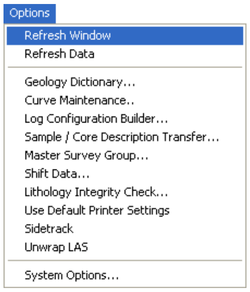
1. **Click** on the Interval... **button** to view a list of **Work Schedules** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Work Schedule** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Work Schedule** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

Note: Be sure to return to the **Work Schedule** window to enter the final date of the well, once it is finished. Also, the information entered into this window creates the **Work Schedule** report in the **Print Well End Report** window.

Field Restriction Table:

Type	10	Character	Mandatory
Top Depth	5.5	Numeric	Mandatory
Base Depth	5.5	Numeric	Optional
Start Date	DATE FORMAT	Default=Current Date	Optional
End Date	DATE FORMAT		Optional
Contractor	30	Character	Optional
Worker	50	Character	Optional
Remark	254	Character	Optional

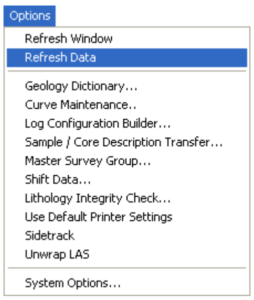
Chapter Five - Options Menu



Refresh Window

When you **click** on **Refresh Window**, under the **Options** menu selection, **Power*Log / Core & Curve** will redraw the layers displayed on the screen. This is utilized to redraw the log when the screen doesn't look normal. This option will not retrieve information from the database and populate the log with it.

Note for Network users: Since this function doesn't retrieve information from the database, you will not be able to see any changes made by other network users.



Refresh Data

This option updates the log/well with all of the new/updated data that has been edited, entered or imported into the database. It can also be used if you have made some changes and you don't believe that they are being reflected on the log.

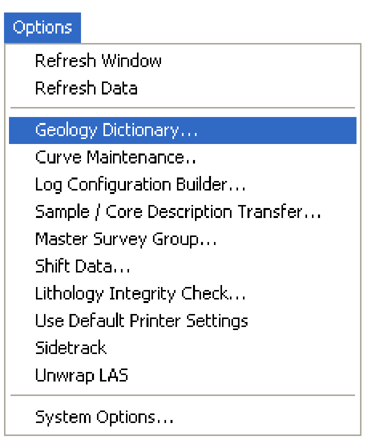
Refresh Data is particularly helpful, when you are working on numerous logs with the same **Primary Well** and the current log has been updated, while the inactive log(s) have not. To update the inactive log(s) with the latest information, make one of the previously inactive logs active, **click** on the **Refresh Data** option, and then repeat this procedure for the rest of the logs.

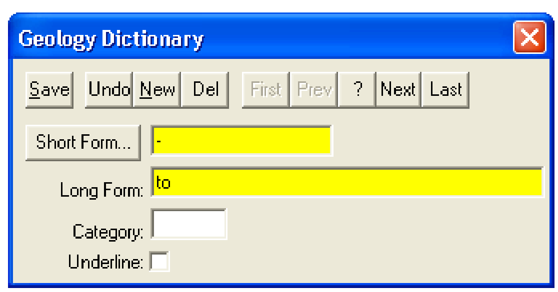
Note: If you are using a network version of **Power*Log / Core & Curve**, the **Refresh Data** option will update the database with changes, that have been made to the same **Primary Well** by another workstation.

Geology Dictionary

There are over 1500 terms listed in the Geology Dictionary. Definitions are organized alphabetically in their long form. You may add your own terms to the dictionary or modify existing terms.

Click on **Geology Dictionary**, under the **Options** menu selection, to activate the **Geology Dictionary** window shown below. You can also get access to the **Geology Dictionary** through the **Sample** and **Core Description** windows under the **Reports** pull down menu.





Adding an Abbreviation

1. **Click** on **Geology Dictionary** under the **Options** menu selection.
2. **Click** on the New **button or press ALT-N** to clear the **Short Form** and **Long Form** fields.

3. **Enter** the desired abbreviation into the **Short Form** field and press the **Tab** key to advance to the **Long Form** field.
4. **Enter** the long form of the new abbreviation into the **Long Form** field.
5. **Click** on the Save **button** or **press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing an Abbreviation

1. **Click** on the Short Form... **button** and a list of abbreviations will appear.
2. Then, **click** on the empty field at the top of **Geology Dictionary Terms** window and begin typing out the full word.
3. **Click** on the Query **button** and the list of Geology Dictionary terms will advance alphabetically. You may also scroll down the list to find the word, if you so desire.
4. Either **double click** on the word you were searching for in the list or **click** once on the word and then click on the Select **button**. The word and its abbreviation will then appear in the **Geology Dictionary** window.
5. Make any necessary changes to the abbreviation, **Click** on the Save **button** or **press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting an Abbreviation

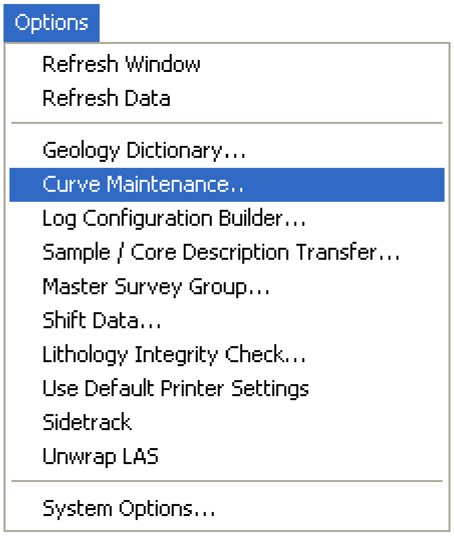
1. **Click** on the Short Form... **button** and a list of abbreviations will appear.
2. Then, **click** on the empty field at the top of the **Geology Dictionary Terms** window and begin typing out the full word.
3. **Click** on the Query **button** and the list of Geological terms will advance alphabetically. You may also scroll down the list to find the word, if you so desire.
4. Either **double click** on the word you were searching for or **click** on the word and then **click** on the Select **button**. The word and its abbreviation will then appear in the **Geology Dictionary** window.
5. **Click** on the Del **Delete button** and you will receive the following system message, "***Do you really want to delete the current record?***"
6. **Click** on the Yes **button** to delete the abbreviation and select the appropriate shortcut option.

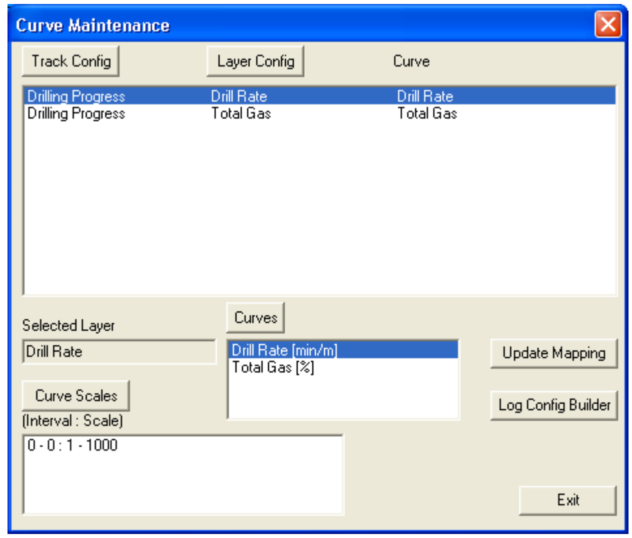
The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

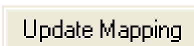
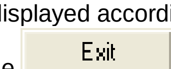
Curve Maintenance

The **Curve Maintenance** window is designed to provide the user with access to every curve layer configuration tool within **Power*Log / Core & Curve**. **Click** on **Curve Maintenance**, under the **Options** menu selection, or simply **click** on the **Curve Maintenance button** to activate the **Curve Maintenance** window shown below:

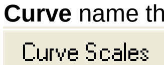


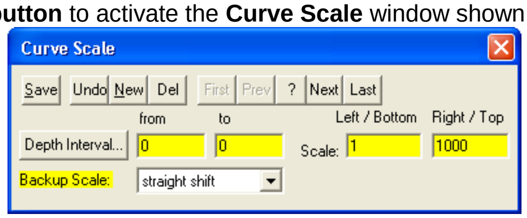


Mapping a Curve to an Existing Layer

1. **Click** on **Curve Maintenance** under the **Options** menu selection.
2. Select (highlight) a layer you wish to associate the curve data with and the layer's name will be displayed in the **Selected Layer** field.
3. Scroll through the list of curves to find the curve data you wish to map to the previously selected layer, select (highlight) the desired curve, and its scale will be displayed in the **Curve Scales** field.
4. **Click** on the  **button**. The selected curve and its data will be associated with the selected layer and displayed accordingly on the log.
5. **Click** on the  **button** to save and make changes to the curve displays. If this is an imported curve, the scales associated with this curve could be wrong. Refer to Changing and Adding Curve Scales section.

Changing and Adding Curve Scales

1. **Click** on the **Curve** name that you wish to edit.
2. **Click** on the  **button** to activate the **Curve Scale** window shown below:



Notice that the **Interval** (From) and **Interval** (To) values, respectively, have defaulted to "**0**" to "**0**" with the **Scale** (Left), **Scale** (Right), and **Backup Scale** defaulting to the values last entered by the user.

****Note that an interval of 0 to 0 represents the entire curve. ****

3. Enter a new value into the **Interval** (To) field to indicate where the existing scale will stop.
4. **Click** on the  **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.
5. Type a new value into the **Interval** (From) field (must be the <u>same</u> value that was entered into the <u>original</u> **Interval** (To) field to indicate where the first curve scale ended.)
6. Type a new value into the **Interval** (To) field, which is typically larger than the last depth on your log, to indicate where the second curve scale ends.

7. Enter the new **Scale** (Left) and **Scale** (Right) values, including a **Backup Scale** (typically **Straight Shift**), from the **Backup Scale** field drop box
8. **Click** on the Save **button** or **press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window to close the **Curve Maintenance** window.

> **Note:** Always fill in all the fields in the Curve Scale window. Never leave any depth intervals uncovered by the curve scales intervals. The data at those intervals will not be able to be shown.

Editing the Active Track Configuration

1. **Click** on the **Track** name that you wish to edit.
2. **Click** on the Track Config **button** to activate the **Track Configuration** window.
3. Edit the **Track Configuration** window, as outlined below.

Adding a Header to a Track

a. Type the desired **Header** information into the **Heading** fields within the window and **click** on the Save **button or press ALT-S**.

Offsetting a Track - (Correlational Module only)

b. Type the offset figure into the **Depth Offset** field within the window and **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window. to exit the window and return to the **Track Configuration** window.

> **Note:** A positive integer will increase the depth of the track(move it down), while a negative integer will decrease the depth of the track(move it up).

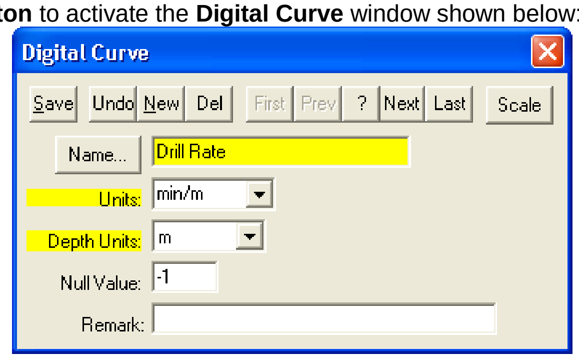
4. **Click** on the Save **button or press ALT-S** to save your work and exit from the **Curve Maintenance** window.

Editing a Layer Configuration

1. **Click** on the **Layer** name that you wish to edit.
2. **Click** on the Layer Config **button** to activate the **Layer Configuration** window.
3. Edit the **Layer Configuration** window, using the instructions outlined for you in **the On-Line Help System** (generated by pressing the **F1** key, when you are inside the **Layer Configuration** window).
4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Changing Curve Units, Names, Null Values, or Remarks

1. **Click** on the Curves **button** to activate the **Digital Curve** window shown below:



2. Use the **Database Navigational Tools** to view all of the curves available in the database and select the one that you wish to use OR
3. **Click** on the Name... **button** to see a list of the curves associated with the primary well or other wells in the database, if you used the **UWI** field in the **Layer Configuration** window to associate the layer with curve data in another well within the database.
4. You can now rename, select (or type in), new units, change the null value, or add/change the remarks.
5. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

<u>Note</u>: You can add a new curve by clicking on the New **button or press ALT-N** and filling in the blank fields. **Click** on the Save **button** or **press ALT-S** and then **click** on the appropriate **button** when prompted with the **Shortcut Options** system window.

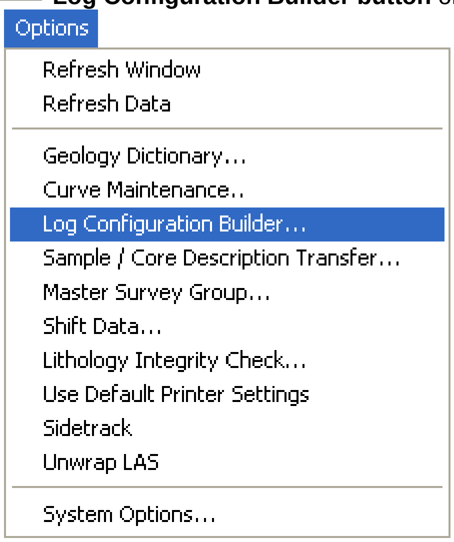
Adding a Curve Layer to a Track on your Log

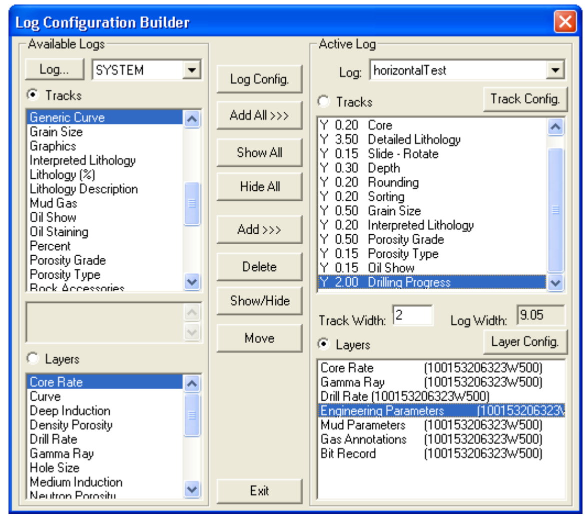
When you add a curve layer to your log, you must assign it to a specific track.

1. **Click** on the Log Config Builder **button** in the **Curve Maintenance** window.
2. On the **left side** of the window, **click** on the **track** (Generic Curve / Single Curve or Mud Gas) containing the curve layer you wish to add to your log and the layers contained in the selected track will then be displayed below in the **Layers** section.
3. The **left side** of the window, **click** on the specific **curve layer**, that you wish to add to your log, within the **Layers** section on the left side of the **Log Configuration Builder** window.
4. On the **right side** of the window, **highlight the track** that you wish to add the selected curve layer to.
5. **Click** on the Add >>> **button** to add the selected curve layer to the track on your log and the following system message will be activated, "***Do you want to ADD the selected <LAYER> from the available log to the active log?***"
6. **Click** on the Yes **button**. This will activate the **Get Name** window.
7. You now have the option of either renaming the curve layer or simply leaving it with its original name.
8. **Click** on the OK **button** to add the curve layer to your log and place its name in the active **Layers** list on the right side of the **Log Configuration Builder** window.
9. **Click** on the Exit **button** to close the **Log Configuration Builder** window and return to the **Curve Maintenance** window.
10. **Click** on the Exit **button** to close the **Curve Maintenance** window.

Log Configuration Builder

This window allows you to add tracks/layers, delete tracks/layers, alter track width, and move tracks. You can also access all log, track and layer configurations for your log.
To activate this window **Click** on **Log Configuration Builder**, under the **Options** menu selection in this window, or use the  **Log Configuration Builder button** on the **Toolbar** to activate the **Log Configuration Builder** window.





This is the heart of the **Power*Log / Core & Curve** program and as such controls the way your well's information is displayed on the log.
The well may have a lot of information stored in the database, but that information cannot be shown graphically on the log, until the necessary layers are built to illustrate that information.

<u>The left side of the Log Configuration Builder: Available Logs</u>

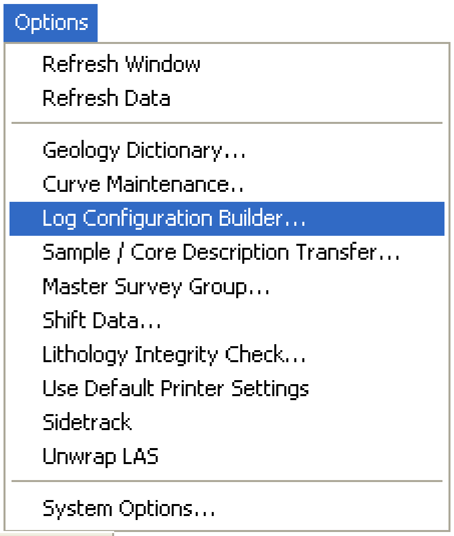
The **Available Logs** section or **<u>left</u>** side of the **Log Configuration Builder** window allows you to take any track or layer from **Available Logs** and add it to the log you are currently creating/building. On the **left** side of the window, below the ◉ Tracks **radio button** is a list of the tracks available for adding to the **Active Log**.
The **Available Logs** section or left side of the window contains the track and layer configuration of the **SYSTEM [SYSTEM]** log, when the window first opens. You have the option of using any of the existing **<u>Tracks</u>** and their associated layers or any of the existing **<u>Layers</u>** that are associated with any of the logs in the log database. The user can **click** on the Log... SYSTEM button on the left side of the screen to activate a selection list of all log formats that are in your database. The list is comprised of two (2) names with the first name in the list being the system **Log Name** and the second name (in brackets), being the **UWI** of its primary well. **Double click** on the log format you wish to copy from.
Below the ◉ Layers **radio button**, on the **left** side of the window, is a list of the layers available in the track highlighted above. They will be added all at once, if you add their parent track. However, they can also be added on an individual basis, if you only want to add one (1) layer to an existing **Active Log** track.

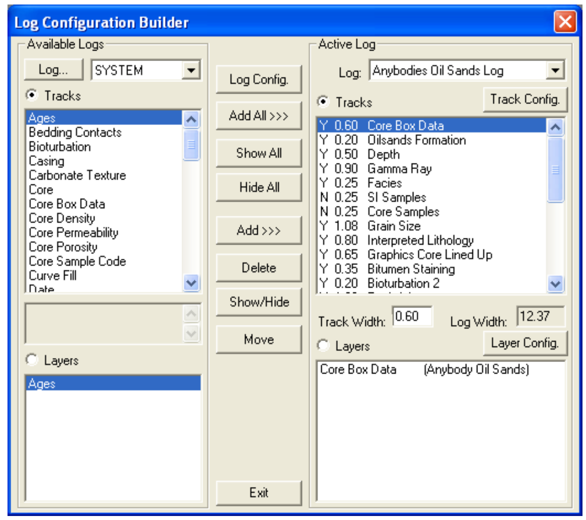
<u>The right side of the Log Configuration Builder window: Active Log</u>

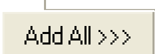
The **Active Log** section or the **<u>right</u>** side of the window displays the tracks and layers of the **<u>Active Log</u>** (the log that is open), in the main **Power*Log/Core/Curve** window that is open. The name of the log is viewed in the **Log** field. In this case, it will be "**Horizontal Test**." Below the ◉ Tracks **radio button** on the **right** side of the window, is a list of the tracks that are currently found within the **Active Log.** The track at the top of this list is drawn on the left side of the log, while the track on the bottom of the list is drawn on the far right of the log with all of the other tracks drawn in between, respectively. Below the ◉ Layers **radio button,** on the **right** side of the window, is a list of the layers that are associated with the track highlighted above.

<u>The middle of the Log Configuration Builder window: Selection Buttons</u>

The **selection** buttons, found in the middle column of the window, are for adding layers or tracks from the **Available Logs** to the **Active Log**, activating/deactivating the **Active Log's** tracks, deleting active log tracks or layers, and moving tracks or layers within the **Active Log**.

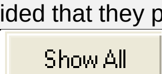




The 

button adds all of the available tracks, along with their associated layers, on the left side of the **Log Configuration Builder** window to your log. Once added to your log, the tracks will appear on the right side of the **Log Configuration Builder** window in the **Tracks** list.

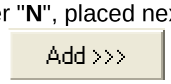
Note: A new track will not be created, if you try to add a new track to your log that contains the same name as an existing track on your log. However, the layers associated with the added track will be added to the existing track, provided that they possess unique layer names.

The 

button will enable all of the tracks listed on the right side of the **Log Configuration Builder** window to be seen on your log. The letter "**Y**", placed next to the track names, indicates that they are being shown on the log.

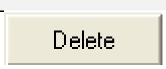
The 

button will configure your log, so that all of the tracks on your log are hidden from sight. The letter "**N**", placed next to the track names, indicates that they are not being shown on the log.

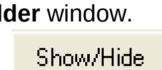
The 

button adds the highlighted track or layer, on the left side of the **Log Configuration Builder** window, to your log. Once added, this track and/or layer will be visible in either the **Tracks** or the **Layers** list on the right side of the window.

Note: If you add a track and/or layer to your log containing the same name as an existing track and/or layer, the new track and/or layer will not be created. Therefore, you must rename your track and/or layer prior to adding it to your log.

The 

button deletes the track or layer that is highlighted on the right side of the **Log Configuration Builder** window.

The 

button will toggle between **Show** and **Hide** for the highlighted track on the right side of the window. You can also show and hide tracks by **double clicking** on them:
The letter "**Y**" (yes) signifies that the track is being shown on the log.
The letter "**N**" (no) signifies that the track is hidden.

Showing or Hiding a Track

1. **Click** on (highlight) **the track name** from your log that you wish to Show/Hide.

2. **Click** on the Show/Hide **button** and the letter "**Y**" at the beginning of the track name will change to the letter "**N**" signifying that the track is no longer displayed on your log. To **Show** or display the track on the log again, simply repeat the procedure.

<u>Note</u>: The **Show/Hide** button feature only works for tracks and not layers.

The Move **button** allows the user to move a track or layer. The button is used to move tracks and/or layers up or down within the Tracks or Layers lists on the <u>right</u> side of the **Log Configuration Builder** window. The order of the tracks and layers within their respective lists is the order in which they will appear on the striplog: tracks situated at the top of the list will be placed on the **left** side of the striplog, while those tracks found at the bottom of the list will be found on the **right** side of the striplog. Layers situated at the top of the list will be drawn on the track last, while layers found at the bottom of the list will be drawn first on the track.

Moving a Track or Layer

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window.
2. **Click** on (highlight) the track or layer that you wish to move on the right side of the **Log Configuration Builder** window.
3. **Click** on the Move **button** and the **Move** button will then display Move Start.
4. **Click** on the **track or layer** that you wish to place the movable track/layer above and the track/layer will be moved above the track or layer you clicked upon.

Adding Tracks to a Log

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window.
2. **Click** on the Log... **button** at the upper left corner of the **Log Configuration Builder** window to activate the **Log Format List** window.
3. Select a **Log** from which to take available tracks or layers by **double clicking** on one of the **SYSTEM Logs** in the **Log Format List** window.
4. On the right side (active log) highlight the track that you wish the new track to be added above.
5. **Click** on the track from the list of tracks on the left side of the **Log Configuration Builder** window that you wish to add to your log.
6. Next, **click** on the Add >>> **button** to add the selected track to your log and this will activate the following system message, "***Do you want to ADD the selected <TRACK> from the available log to the active log?***"

<u>Note</u>: When you add a track to your log, you will get the track and all of the layers associated with that track.

7. **Click** on the Yes **button** to activate the **Get Name** window.
8. You now have the option of either renaming the track or simply leaving it with its original name.

<u>Note</u>: Two tracks cannot share the same name. Accordingly, no tracks will be added to your log, if they share the same name as a track that already exists on the active (your) log.

9. **Click** on the OK **button** to add the track to your log and place its name in the active **Tracks** list on the right side of the **Log Configuration Builder** window and place the Track above the Track Name that was highlighted on the Right side.

Note that the track will be moved to your log with all of its associated layers. Also, you may use the Add All >>> **button to add every track listed on the left side of the **Log Configuration Builder** window to your active log. **

All new tracks added to the active log will be added above the highlighted **Track** on the right hand side of the **Log Configuration Builder** window. Please note that the tracks nearest to the top of the **Tracks** list are placed nearest to the left or top on the actual log.

Adding Layers to a Track on your Log

When you add a layer to your log, you must assign it to a specific track.

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window.
2. **Click** on the Log... **button** at the upper left corner of the **Log Configuration Builder** window to activate the **Log Format List** window.
3. Select a **Log** from which to take available tracks or layers by **double clicking** on one of the **SYSTEM Logs** in the **Log Format List** window.
4. On the left side of the window, **click** on the track containing the layer(s) you wish to add to your log and the layers contained in the selected track will then be displayed below in the **Layers** section.
5. **Click** on the specific **Layer** that you wish to add to your log, within the **Layers** section on the left side of the **Log Configuration Builder** window.
6. On the right side of the window, highlight the track that you wish to add the selected layer to.
7. **Click** on the Add >>> **button** to add the selected layer to the track on your log and the following system message will be activated, "***Do you want to ADD the selected <LAYER> from the available log to the active log?***"
8. **Click** on the Yes **button** to activate the **Get Name** window.
9. You now have the option of either renaming the layer or simply leaving it with its original name.

Note: Two layers cannot share the same name. Accordingly, no layer will be added to your track if they share the same name as a layer that already exists on the active (your) track.

10. **Click** on the OK **button** to add the layer to your log and place its name in the active **Layers** list on the right side of the **Log Configuration Builder** window.

Note: The Add All >>> **button** only works for tracks. You cannot use it to add all layers.

Deleting a Track

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window.
2. On the right side of the window, there is a list of all the tracks in your active log. Highlight the track that you wish to delete or highlight the track that contains a layer you wish to delete.

Note: When a track is highlighted, its layers will be displayed below in the **Layers** section.

3. **Click** on the Delete **button** and you will be prompted with the following system message, "***Do you want to DELETE the selected <TRACK/LAYER> in the active log?***"
4. **Click** on the Yes **button** to confirm the deletion.

**Note that if you delete a track, all of its layers will also be deleted. **

Deleting a Layer

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window.
2. On the right side of the window, there is a list of all the tracks in your active log. Click on (highlight) the track that contains the layer you wish to delete.
3. **Click** on the **Layer** you wish to delete so that it become highlighted and the Layers **radio button** is activated.

Note: When a track is highlighted, its layers will be displayed below in the **Layers** section.

4. **Click** on the Delete **button** and you will be prompted with the following system message, "***Do you want to DELETE the selected <TRACK/LAYER> in the active log?***"
5. **Click** on the Yes **button** to confirm the deletion.

Changing the Width of a Track

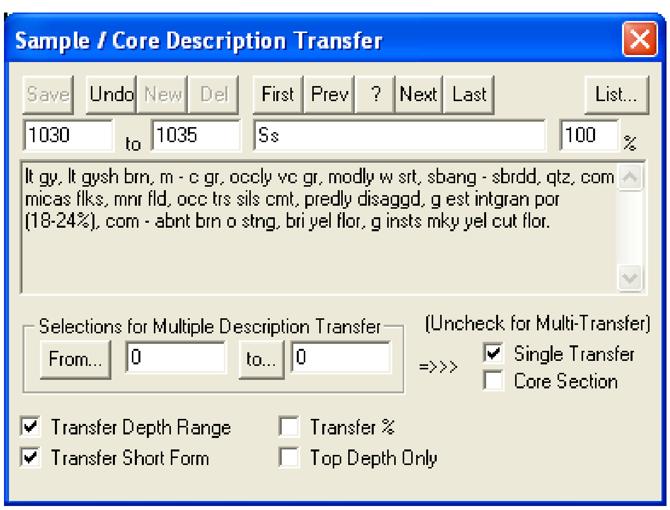
These widths are used for both screen display and printing purposes.

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window.
2. On the right side of the window, **click** on the **track** whose width you wish to modify and the current width of the track will then be displayed in the **Track Width** field, underneath the list of tracks.
3. **Click** in the **Track Width** field and enter in the new **Track Width** field value.
4. Press the **Tab** key on the keyboard to exit from the field and input the new track width.

Note: The total width of the log is determined only by the tracks that are active (indicated with a "**Y**"). The printable range for most printers is approximately 8" when printing in **Portrait** on 8.5" paper. Therefore, **do not make the total width of your log greater than the range of your printer**. You may have to experiment with your printer to determine its precise margin settings.

Sample / Core Description Transfer

This utility can be used to transfer Sample and Core Descriptions entered into the Sample and Core Description Report windows to an annotation layer on the log.



The List... **button** activates a list of all descriptions that are entered into the current well.

The From... and to... **buttons** allow you to select an interval or range of **Sample** or **Core Descriptions** to be transferred. If you utilize these buttons, the user must deactivate (uncheck) the **Single Transfer** check box. You

may also then disregard whatever information is being displayed within the **Interval** (From), **Interval** (To), and the **Description** fields. See "***Transferring Multiple Sample Descriptions***" on the following page.

When activated, the **Single Transfer** check box only allows for the transfer of the single description currently being displayed within the **Sample/Core Description Transfer** window.

When the Single Transfer is deactivated (unchecked) it will allow the user to transfer Multiple Descriptions to the log

The **Core Section** check box , when activated, sets the display scale of the **Descriptions** selected to be transferred onto the **Lithology Description** layer to **1:120**.

<u>Note</u>: The **Core Section** check box does <u>not</u> have to be activated (checked) in order to transfer a **Core Description** to the log. It is only used to modify the display scale from **1:240** to **1:120** in order to limit the overlapping of descriptions within the standard **1:240** log scale.

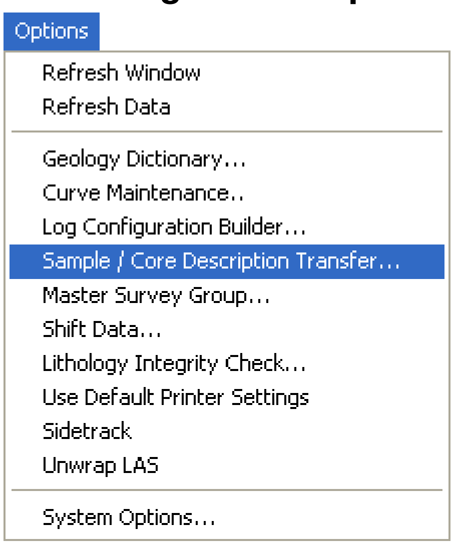
The **Transfer Depth Range** check box when activated will transfer the **From** and **To Depth Interval** to the log.

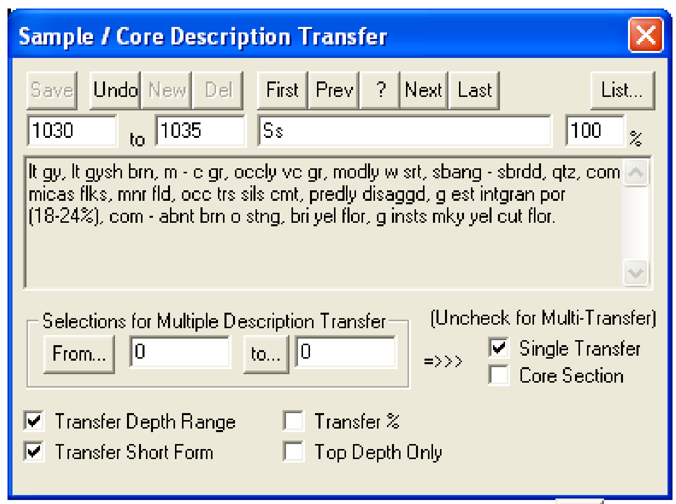
The **Transfer %** check box when activated will transfer the rock % to the log.

The **Transfer Short Form** check box when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

The **Top Depth Only** check box when activated will transfer the only the **From Interval** (or Top of the interval described) to the log.

Transferring one Sample Description



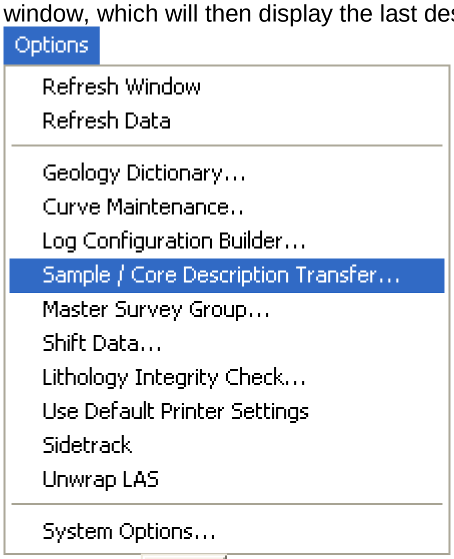


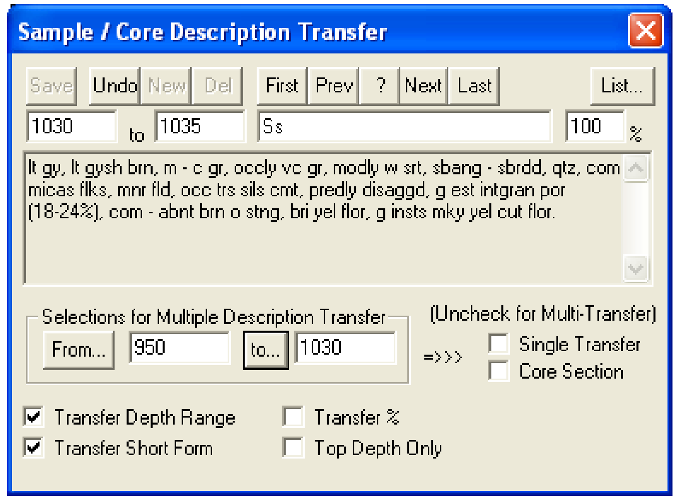
1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.
2. Use the **database navigational tools** First Prev ? Next Last to navigate through the records.
3. **Or, Click** on the List... **button** within the **Sample/Core Description Transfer** window to activate the **Sample/Core Description List** window. Then, **double click** on the desired description within the **Sample/Core Description List** window in order to display it in the **Sample/Core Description Transfer** window.
4. **OR Click** on the ? **button** to enter query mode. The **Depth** and **Rock Type** text fields will become red.

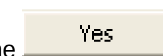
   Type in either a depth value or rock type where you want to start a query from, and **click** on the **Start Query** button. This will refresh the window with all the records starting from the depth value or rock type that you have just entered. Then, use the database navigational tools to navigate through the records.
5. Once the description is displayed within the **Sample/Core Description Transfer** window, click once on a spot on the active **Lithology Description** layer, on the **Lithology Description** track, where you want the **Sample Description** to be placed.

Transferring Multiple Sample Descriptions

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the  **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.





2. **Click** on the  **button** to select the starting depth of the first interval that you wish to transfer.
3. **Click** on the  **button** and select the starting depth of the last interval to be transferred.
4. Deactivate the **Single Transfer** check box .
5. **Click** on the desired spot within the **Lithology Description** layer where you want the first description transferred and the following system message will be activated, "***Do you really want to transfer sample / core text between _ and _ to the log starting at _?***"
6. If the depths outlined in the system message are correct, then **click** on the  **button** and the **Sample Descriptions** will be transferred to the log.

Note: The depth difference between the position of the first description and the actual start depth interval of the first description will remain constant for the entire range of your current transfer. If there are multiple descriptions for one interval they will be placed on the log one meter apart in descending order of percentage, or alphabetically if percentage was not used in the original sample/core descriptions. These can be edited later in the **Annotation** window.

Editing Previously Transferred Sample Descriptions

Note: The user must first close down the Sample Core Description Transfer window before you start editing the sample descriptions that have been transferred to the log. Otherwise every time you click on the layer (with the Sample Core Description Transfer window open) you will either transfer a new description or be prompted to see if you want to transfer.

1. **Click** anywhere within the **Lithology Description** track to make it the active track: highlighted in green. Then, make the **Lithology Description** layer active by selecting it from the **Layer Selection List.**
2. **Click** anywhere inside the **Annotation field**. This will activate the RFT Editing boxes and highlight the annotation.
3. Make any necessary **changes** to the Sample Description within the highlighted Region.
4. **Click outside the annotation field** to finish or save the changes.

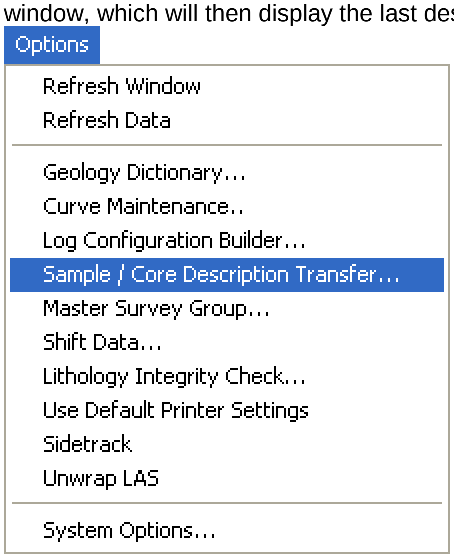
Note: If you wish to edit any other **Sample Description** parameters, including the **Display Scale**, simply make the necessary changes within the RFT Toolbars and then **click outside the annotation field** to finish or save the changes.

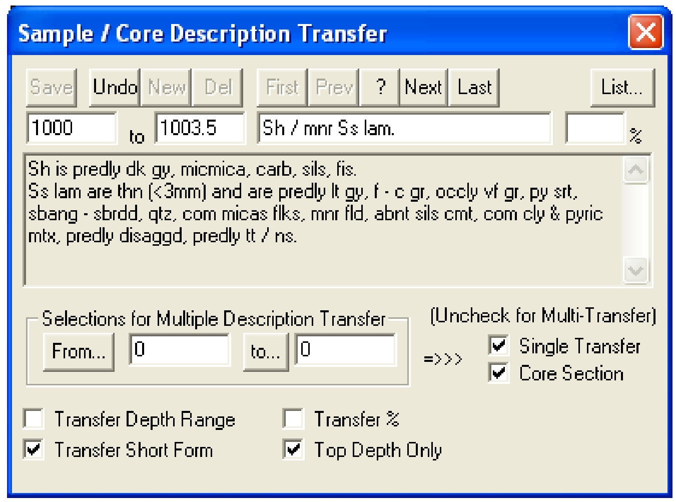
Transferring Core Descriptions

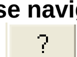
Before transferring **Core Descriptions**, it is recommended that you expand the main log screen to the same scale that you will be using to printout your **Core Log**. Normally, **Core Logs** are printed on a log scale of **1:120** or less. To select your scale, **click** on the **Log Scales** field drop box, located on the **Toolbar** in the main **Power*Log / Core & Curve** window, and select a **Log Scale** of **1:120** or less, e.g. 1:96 or 1:48.

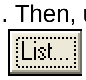
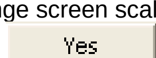
Transferring a Single Core Description

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the  **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.





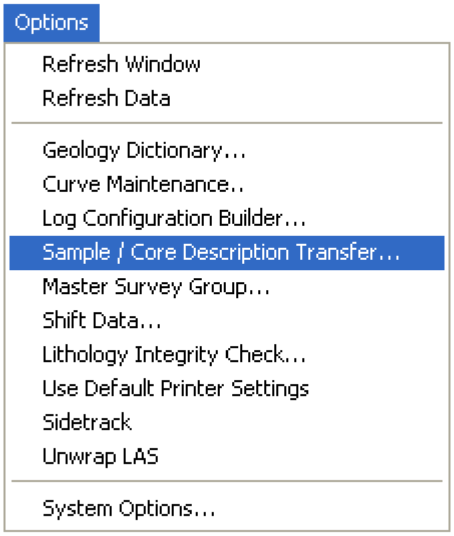
2. **Use** the **database navigational tools**  to navigate through the records.
3. **OR Click** on the  **button** to enter query mode. The **Depth** and **Rock Type** text fields will become red.

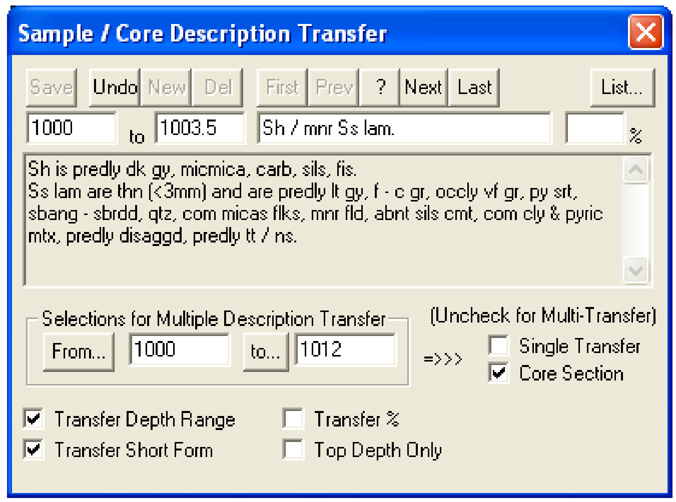
   Type in either a depth value or rock type where you want to start a query from, and **click** on the  **Start Query** button. This will refresh the window with all the records starting from the depth value or rock type that you have just entered. Then, use the database navigational tools to navigate through the records.
4. **OR, Click** on the  **button** within the **Sample/Core Description Transfer** window to activate the **Sample/Core Description List** window. Then, **double click** on the desired description within the **Sample/Core Description List** window in order to display it in the **Sample/Core Description Transfer** window
5. When the desired Core Description for transfer is displayed within the **Sample/Core Description Transfer** window, activate the **Core Section** check box .
6. Next, select a spot on the active **Lithology Description** layer, on the **Lithology Description** track, where you want the **Core Description** to be placed.
7. **Click** on a spot and the following system message will be activated, “Transferring Core Descriptions. Do you wish to change screen scale to 1:120 so you can see the core descriptions?”
8. **Click** on the  **button** to proceed with the transfer of the **Core Description**.
9. Press the **Esc** key on the keyboard to exit from the **Sample/Core Description Transfer** window.

Note: You may now wish to change the **Log Scale** back to the default of **1:240**. When the scale is changed back to 1:240 the descriptions transferred will be turned off by default. Refer to Annotation builder display scale to see how to manage these annotations.

Transferring Multiple Core Descriptions

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.





2. Then, **click** on the **button** to select the starting depth of the first interval that you wish to transfer.
3. **Click** on the **button** and select the starting depth of the last interval to be transferred.
4. Deactivate the **Single Transfer** check box .
5. Activate the **Core Section** check box to ensure that the display scale for the **Core Descriptions** is set at **1:120**. This will ensure that all of the **Core Descriptions** will be seen on the log at a **Log Scale** of **1:120**, while avoiding any possibility of overlapping with the **Sample Descriptions** being displayed at the standard **Log Scale** of **1:240**.
6. **Click** on a spot within the active **Lithology Description** layer, where you want the **Core Descriptions** to be placed, and the following system message will be activated, "***Do you really want to transfer sample / core text between _ and _ to the log starting at _?***"
7. If the depths outlined in the system message are correct, then **click** on the **button** and the following system message will be activated, "***Transferring Core Descriptions. Do you wish to change screen scale to 1:120 so you can see the core descriptions?***"
8. **Click** on the **button** to proceed with the multiple **Core Description** transfer with the transfer options selected.

Note: The depth difference between the position of the first description and the actual start depth interval of the first description will remain constant for the entire range of your current transfer. If there are multiple descriptions for one interval they will be placed on the log in descending order of percentage one meter apart. These can be edited later in the **Annotation** window.

9. Press the **Esc** key on the keyboard to exit from the **Sample/Core Description Transfer** window, when you are finished.

Note: You may now wish to change the **Log Scale** back to the default of **1:240**. When the scale is changed back to 1:240 the descriptions transferred will be turned off by default. Refer to Annotation builder display scale to see how to manage these annotations.

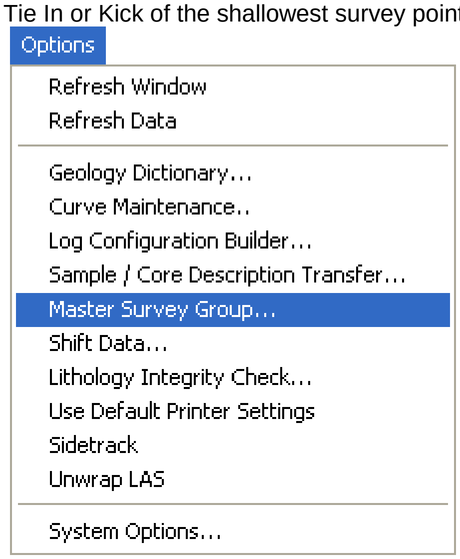
Master Survey Group

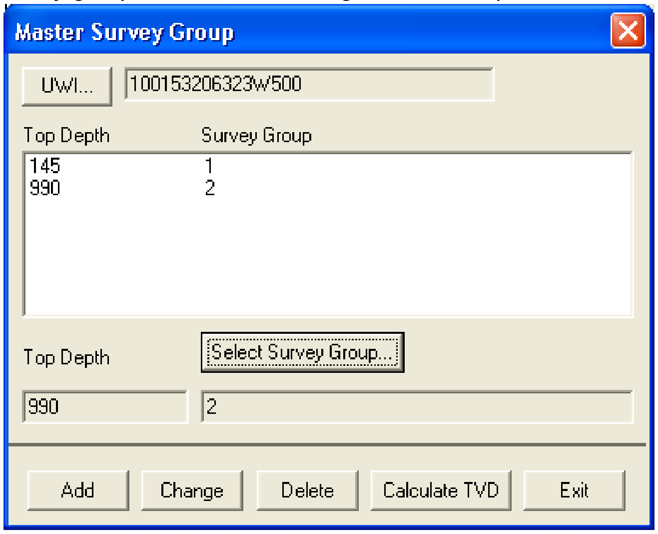
This option allows you to quickly build the Master Survey Group.

Definition: The user can imagine the master survey group as a compilation of multiple survey groups to define the well from spud to total depth. Power*Suite has enabled the user to enter multiple set of surveys from different measuring devises. The user can then take points from all the sets to build a Master Set of survey points that best defines the well path. This group is then compiled and then used to represent Power*Log in the TVD/SSL depth views. This survey set is also used to calculate or interpolate TVD values for all measured depth fields. If the user only has one survey set and has kept the group name as 1 then the Master Survey group does not have to be assembled.

How to Compile the Master Survey Group

The user must identify which Survey Groups they want used for the TVD / SSL depth views of Power*Log. The user must identify which group(s) of surveys and the starting survey point in that survey group. Once this is done the application then creates a Master Survey group that contains all the survey points from all the groups and there surveys points and then uses these to create the TVD and SSL presentations.
The Tie In or Kick of the shallowest survey points Survey group is used as a starting or reference point.

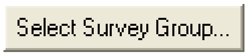




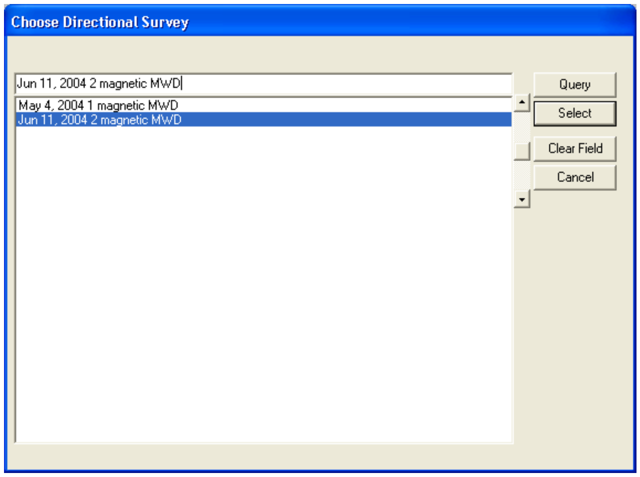
How to Add a Survey Group

1. **Click** on the 

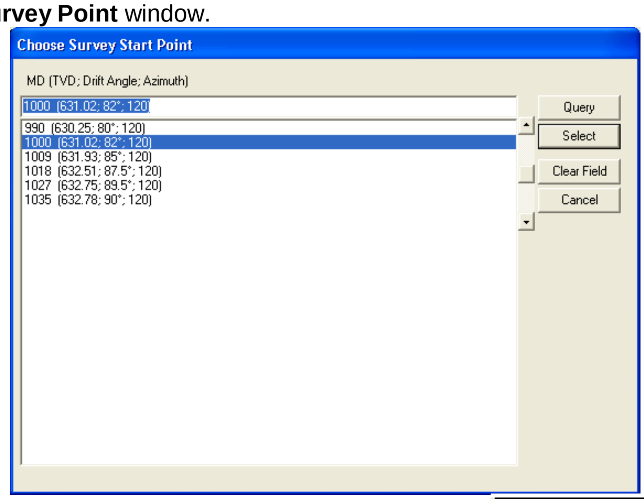
button in the Directional Survey Window **or click** on **Master Survey Group** under the **Options** menu selection. This will activate the **Master Survey Group** window.

2. **Click** on the 

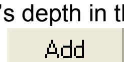
button. This will activate the **Choose Directional Survey** window.



3. **Click** on the Directional Survey group you wish to Add and then **click** on the  **button**. This will activate the **Choose Survey Point** window.

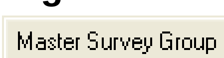


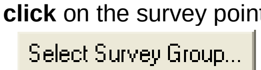
4. **Click** on the Survey point you wish to start with and then **click** on the  **button**. This will place survey point's depth in the top depth field the Survey Group ID selected into the Survey Group ID field.

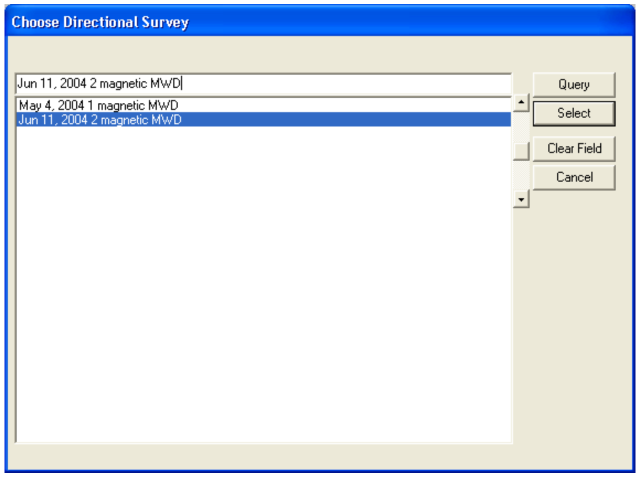
5. **Click** on the  **button** and the Survey will be place in the list.

Note: This Survey and all subsequent surveys in this groups list will be added to the Master Survey Groups survey points until another Survey Group and its top depth has been added to the list.

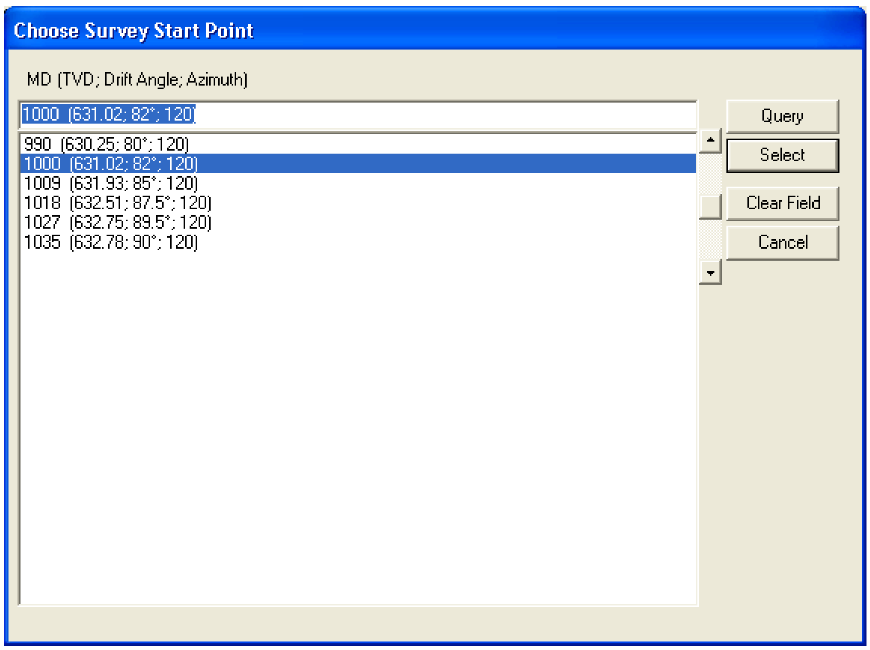
How to Change a Survey Group

1. **Click** on the  **button** in the Directional Survey Window. This will activate the **Master Survey Group** window.

2. Highlight or **click** on the survey point you wish to change.
3. **Click** on the  **button**. This will activate the **Choose Directional Survey** window.

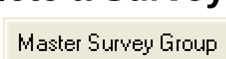
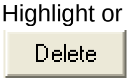


4. **Click** on the Directional Survey group you wish to Change and then **click** on the  **button**. This will activate the **Choose Survey Point** window.



5. **Click** on the new Survey point you wish to start with and then **click** on the  **button**.
6. This will place survey point's depth in the top depth field and the Survey Group ID selected into the Survey Group ID field.
7. **Click** on the  **button** and the new Survey point will be placed in the list.

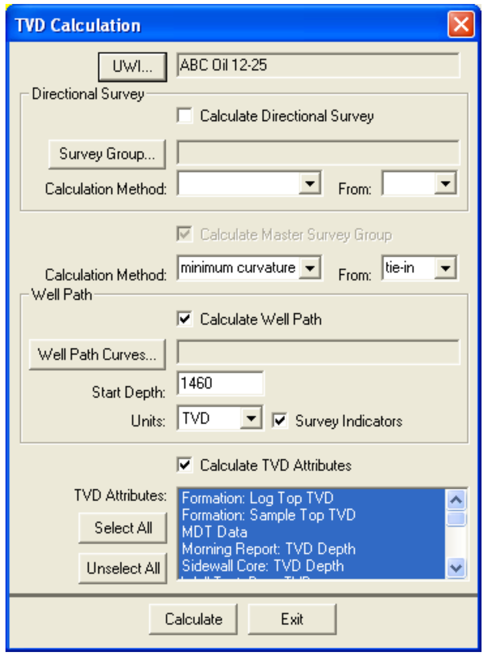
How to Delete a Survey Group

1. **Click** on the  **button** in the Directional Survey Window. This will activate the **Master Survey Group** window.
2. Highlight or **click** on the Survey points Start depth and Group ID you wish to Delete and then **click** on the  **button**. This will delete the survey point and Groups ID from the list.

How to Calculate the Master Survey Group Survey Points

If the Master Survey group has been altered in any way and the user exits the window they will be prompted with a calculation window. The user will have to recalculate the master survey group for your changes to take affect.

1. **Click** on the Calculate TVD **button** in the **Master Survey Group** window. This will activate the **TVD Calculation** window.



Master Survey Portion

After editing the Master Survey group, the user must recalculate the Master Survey group, which calculation method either minimum curvature or drift angle calculations and from either tie-in or kick off co-ordinates. The Master Survey Group is compiled from points from different Survey Groups. **The Master Survey group if built is then used to perform all TVD / SSL Calculations within the application.**

Procedure

1. **Select the Calculation method** from the drop box. (Minimum curvature must have an azimuth and will fill in all the fields in the Survey Points Window, otherwise use drift angle to get only the TVD field completed in the Survey Points Window.)
2. **Select** the From Tie-In or Kick-Off **co-ordinates**.

The defaults are picked up from the User defined TVD Calculation portion of the **Directional Surveys Report'\ window from the survey group that has the shallowest survey point**, Kick Off is selected by default if not filled in. Remember that the data required for the **Kick Off** or **Tie In** reference is entered in the **Directional Surveys Report**, found under the **Reports** menu selection. Kick Off is selected by default.

Well Path Portion

The Well Path for lack of better terms will update any curve on your log with either TVD or SSL data and will start at any depth required. It basically plots a curve with respect to measured depth and the survey data's TVD calculations which can also be converted to SSL if a KB elevation has been entered into the Well Record located under the Edit menu selection.

Procedure…

1. If the user wishes to calculate or update the Well path curve **activate** the ☑ Calculate Well Path **check box** ☑.

2. **Select** which **curve** you wish to populate with this data by **clicking** on the [Well Path Curves...] **button** and selecting the curve from the existing curve in the database.
3. **Type in** the **Start depth** for which the curve will first appear on the log.
4. **Select** which **units** you would like this curve to be plotted or updated with from the Units selection box. TVD is the direct calculations from the survey points. SSL are converted with respect to the wells Kelly Bushing Elevation.
5. **Select** the **Survey Indicators** check box ☑ if the user wishes to have the survey points displayed at 45 degrees to the selected well path curve.

TVD Attributes Portion

Procedure…

1. If the user wishes to calculate or update the specified TVD fields within the various windows throughout the Reports **activate** the ☑ Calculate TVD Attributes **check box** ☑.

The program is only able to determine the TVD at any depth covered by the directional surveys. Power*Log and Power*Curve have several windows in which the measured depth and corresponding true vertical depth are asked for. If you have directional surveys over that interval, the program will calculate the exact TVD for you. If it is outside the range of your surveys, it will be left as a manual entry.

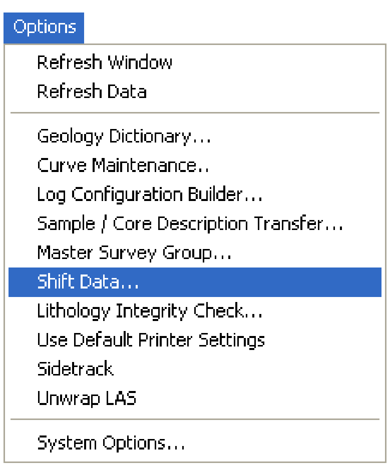
2. Select or **click** on which fields (highlight) you wish to calculate for or recalculate if you have changed the survey data. Remember you have the ability to select all or unselect all.
3. **Click** on the [Calculate] **button**.

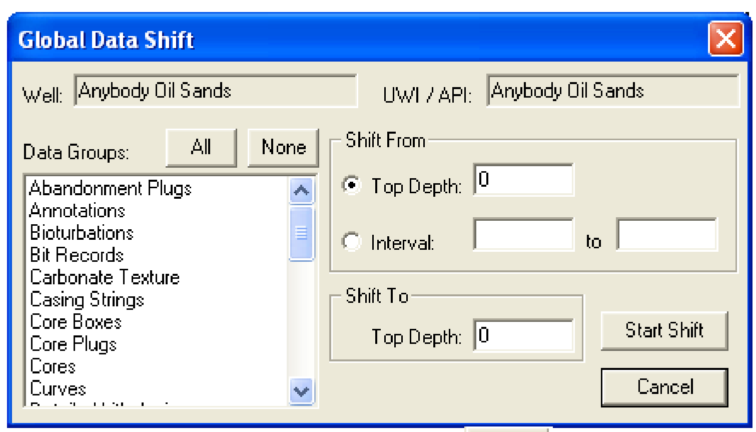
Shift Data

This option allows you to globally shift log data to a different depth.
This will shift data permanently over any interval. You can select all or specific portions of a well's data for shifting or depth correction. This correction can encompass the entire well or a smaller depth interval and can be used to depth tie wireline logs or adjusted to strap corrections.

Note: It is recommended that if you use this option, you should first make a backup of the well. This operation does a global change of the entire database and if you mistakenly shift data, you can corrupt your entire database!!

1. Under the **Options** menu selection, **click** on **Shift Data** to activate the **Global Data Shift** window.





2. Highlight the data groups that require shifting. To highlight all groups, **click** on the [All] **button**.
3. **Double click** on the **Annotations** selection from the list to expand the annotation data groups. If you wish to shift all annotations, simply highlight the **Annotations** selection and proceed to **Step 5**.
4. Select the annotations you wish to shift by clicking on them and they will then be highlighted.
5. **Double click** on the **Curves** selection from the list to expand the curve data groups. If you wish to shift all curves, simply highlight the **Curves** selection and proceed to **Step 7**.
6. Select the curves you wish to shift by clicking on them and they will then be highlighted.

7. Decide which method of shifting is appropriate and then **click** on the corresponding radio button.

8. **Shift From (Top Depth) -** Enter the top depth of the data to be shifted and every interval below that point will be shifted.

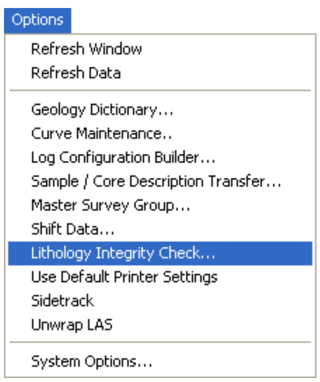
Note: In the diagram above, all the **Annotations** and **Curves** have been shifted 310 meters upward.

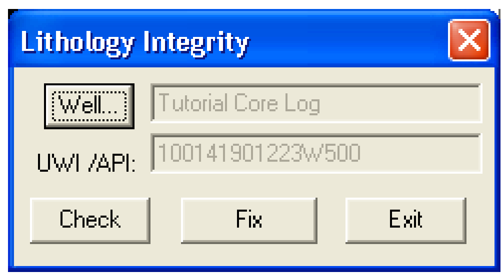
9. **Shift From (Interval) -** Only the data located between these two intervals will be shifted.
10. Enter a value in the **Shift To (Top Depth)** field to indicate what depth you would like the data to be shifted to.
11. **Click** on the Start Shift **button** to initiate the shift.

You are also able to shift curve data on an individual layer basis, by using the **Curve Editor** window. For a temporary or visual shift of data you can utilize the **Track Offset** or **Layer Offset** selections located in the **Track Configuration** and **Layer Configuration** windows, but only if you possess the **Correlational Module**.

Lithology Integrity Check

This option is used to verify the integrity of the lithologic intervals. This makes sure that there are no overlapping intervals on the log or in the database.





Checking and Fixing Lithologic Integrity

1. **Click** on **Lithology Integrity Check**, under the **Options** menu selection, to activate the **Lithology Integrity** window, which will default to the active well.

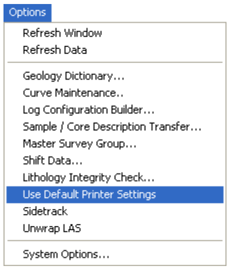
2. If necessary, **click** on the Well... **button** and select the well that you wish to check or fix.

3. **Click** on the Check **button** and **Power*Log / Core & Curve** will then check for integrity errors and display a message box showing the number of errors found. **Click** on the OK **button** to acknowledge the message.

4. If there are any errors that you wish to fix, **click** on the Fix **button** to activate a system message which allows you to verify the deletion of the offending intervals.

5. **Click** on the Yes **button** to delete the intervals or **click** on the No **button** to cancel the operation.

Note: If you have fixed any intervals (deleted them), you will have to re-populate the log with the correct interpretive lithology.



Use Default Printer Settings

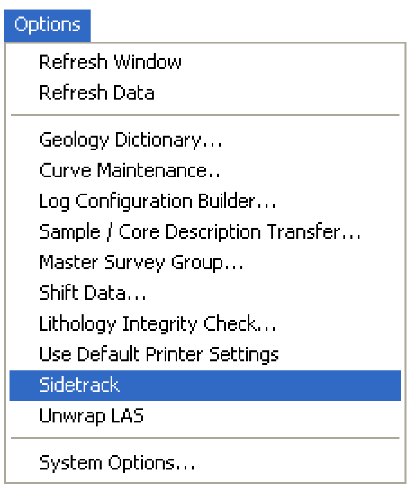
Occasionally the Power*Suite printer settings gets confused in the initialization file and the user cannot activate either the Print Log window or the Printer Setup windows in the Morning and Well End report print windows. This problem can be rectified by clicking on the Use Default Printer Settings and clicking on yes to the ensuing message.

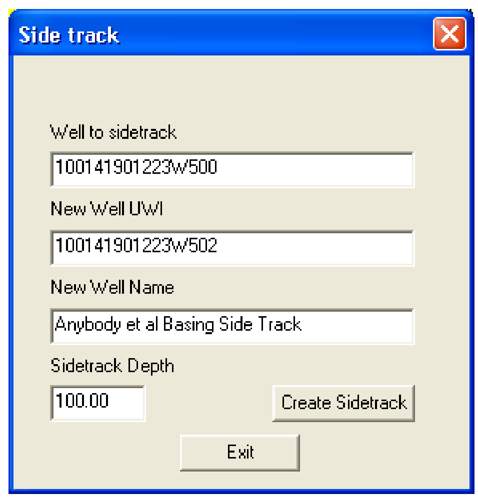
Sidetrack

This procedure allows the user to keep the information from their existing well and create a sidetrack well. This allows the user to enter new data from an existing depth predetermined in a new well. Power*Suite has been programmed in such a way as to only allow the user to have one set of interpretive lithology at any given measured depth interval. This limitation will not allow the user to have multiple legs off a single well with respect to the geological interpretation. This procedure would allow the user to keep separate the geological data in a separate and unique well table for any pertinent geological data below the sidetrack or whipstock depth.
The user would then have the original well / log and have a second Sidetrack well / log to generate a second well report and log that would include the original well data down to the sidetrack depth where the user can then enter new data for the sidetrack well.

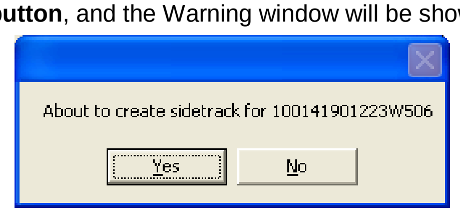
Note: The well you wish to sidetrack must be open at this time.

1. **Click** on the **Sidetrack** selection located under the **Options** menu selection. This will activate the **Sidetrack** window shown below.

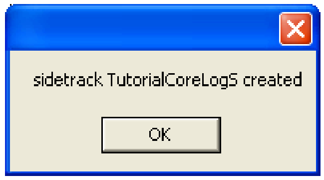




2. **Click in the New Well UWI field and type in a new unique UWI**. You can change only the last digit to make it unique. Usually, it is the event sequence from 0 to 2
3. **Click in the New Well Name field and type in a new unique name** to rename the well. An example of a sidetracked well name would be: Anybody et al Basing renamed to Anybody et al Basing Side Track.
4. In the **Sidetrack Depth** field, enter the sidetrack depth where you want to keep the data to.
5. **Click** on the  **button**, and the Warning window will be shown.



6. **Click** on the  **button**, and the **Confirmation** window will be shown.



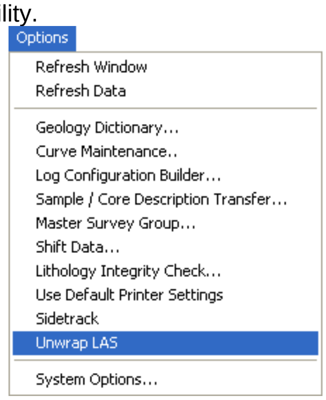
7. **Click** on the OK **button**. Then, **click** on the Exit **button** in the **Sidetrack** window to exit the window.

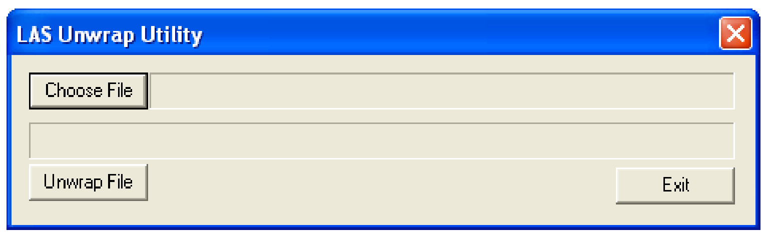
Unwrap LAS

The LAS import module does not allow the user to be able to import wrapped LAS file formats. The wireline logging companies sometimes wrap their files so that they can be printed on an 8.5 x 11" sheet of paper but does not lend itself to pure columnar data. The user can now unwrap these wrapped LAS files using this utility.

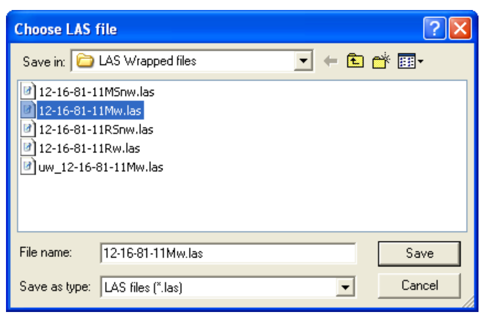
How to unwrap a wrapped LAS file format

1. **Click** on the **Unwrap LAS** selection under the **Options menu** selection. This will activate the LAS Unwrap Utility.

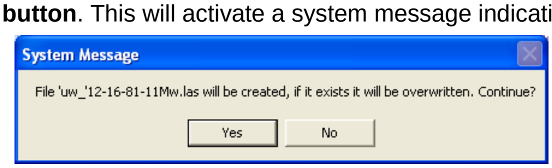




2. **Click** on the Choose File **button**. This will activate the Choose LAS file window.

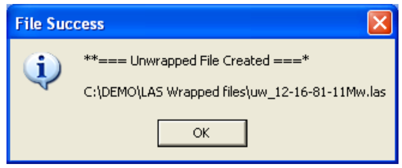


3. Find the wrapped LAS file in question through the regular file finding tools and highlight the file and **click** on the Save **button**. This will populate the Unwrap utility with the file to be unwrapped.
4. **Click** on the Unwrap File **button**. This will activate a system message indicating the new file name.

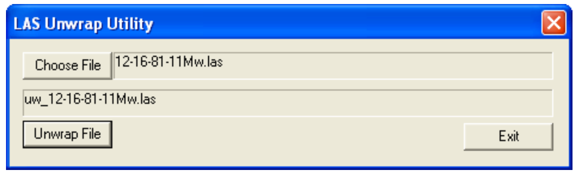


5. **Click** on the Yes **button**. This will activate file Success message window showing you your path and new file name.

Note: The application basically renames the file with a prefix un_ and put the file in the same folder as it was found.

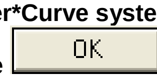


6. **Click** on the  **Button** and the LAS Unwrap window will also reflect the new file creation.

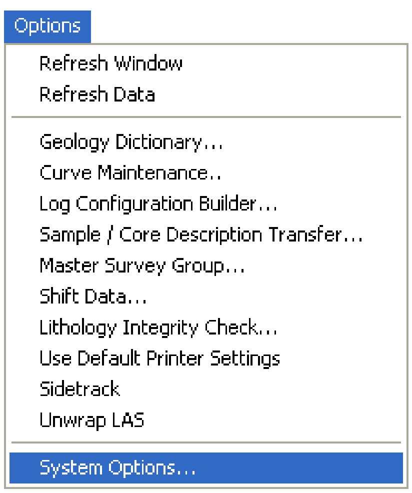


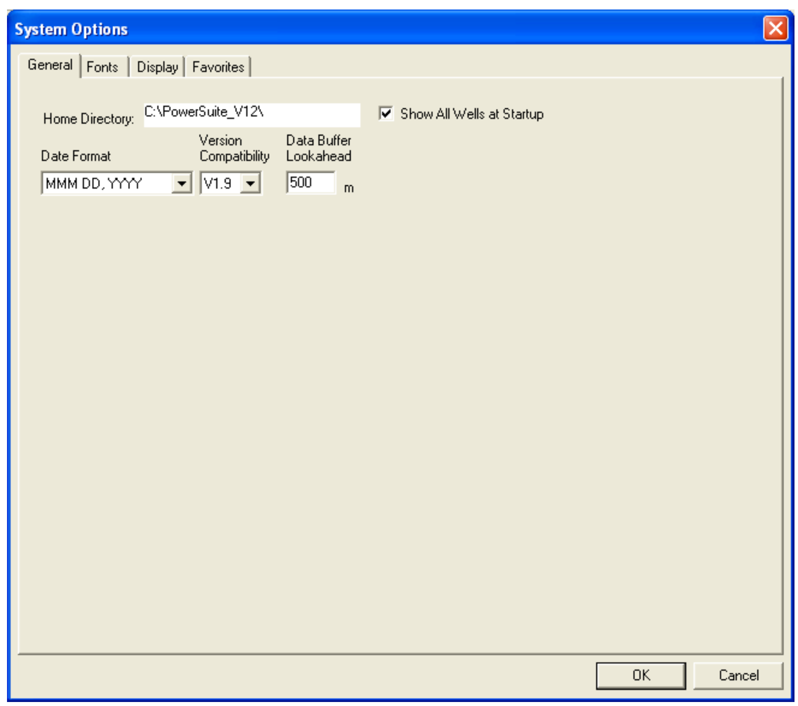
7. If you are finished then **click** on the  **button**. This will close the LAS Unwrap Utility.

System Options

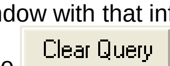
The user can manage Power*Log, Power*Core and Power*Curve system settings with this tab dialogue window. Once you have made your changes Click on the  **button**

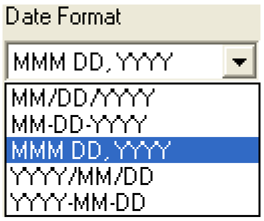
General Tab





Home Directory - This is the directory on your hard drive where **Power*Log, Power*Core and Power*Curve** is being executed. The user will not see any symbols on their log or print out any of our reports it you have the wrong home directory.

 This check box when  activated will populate the Open Log window with all the wells in the database. If it is unchecked it may help our corporate users and the time it take to retrieve thousands of wells from the database and to populate the Open Log window with that information. If this check box is deactivated and you wish to see all your wells then simply **click** on the  **button** in the Open Log window to see all their wells if this option is deactivated.



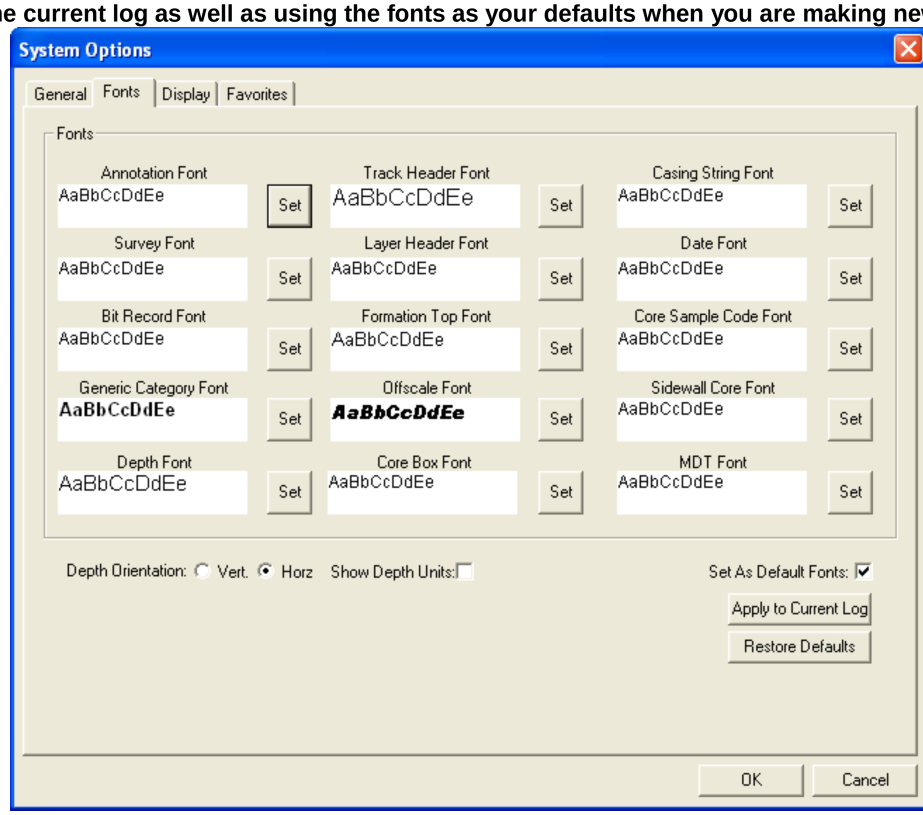
Date Format - From this drop box, you can select the date format. This selection determines how every date in **Power*Log / Core & Curve** will be entered and displayed. If you import a log with different date formats, **Power*Log / Core & Curve** will change the dates to comply with the format you've chosen here. The user can change this at any time and all the Date formats will be changed in the database.

Version Compatibility - Enables the user to achieve compatibility for Annotations in the older Versions of Power*Suite (V1.81 and before) and the Annotations in the newer Versions of Power*Suite (V1.9 and later).

Data Buffer Lookahead - The number placed in this field determines how far ahead and behind the current top depth will be stored in the computers buffer. The larger the look ahead number, the longer it takes for Power*Log / Core & Curve to refresh the screen when you exceed the look ahead value. However, until you meet or exceed the look ahead value, scrolling will be much faster, because the database is not yet being accessed.

Fonts Tab

This tab allows the user to set up most of the fonts used in Power*Log, Core and Curve. You can set it up to be used on the current log as well as using the fonts as your defaults when you are making new logs.



Annotation Font - Allows you to determine the default font style, type, color and size of your annotations on your log, Also this is the default when you use any of the Sample Description Transfer options.

Survey Font - Allows you to determine the font style, type, color and size of your survey data associated with the Survey Layer on your log.

Bit Record Font - Allows you to determine the font style, type, color and size of your bit record data associated with the Bit Record Layer on your log.

Generic Category Font - Allows you to determine the font style, type, color and size of your Long or Short Name display option in all the Generic Category Layers displayed on your log.

Depth Font - This allows you to determine the font style, type, color and size of the depth markers in the **Depth** track of the log.

- These radio buttons allows the user to change the orientation of the Depth Font on the Layer. Beware you may have to change the Track Width to accommodate the Font size and orientation. Refer to the Log Configuration Builder to do this.

Show Depth Units This check box when activated will display the depth units with the depth on the Depth Layer. ie. 1000 ft or 1000 m vs. 1000

Track Header Font - Allows you to determine the font style, type, color and size of your Track Headers on your log. All track headers use the same font across the entire log.

Layer Header Font - Allows you to determine the font style, type, color and size of your Layer Headers on your log. All Layer headers use the same font across the entire log.

Formation Tops Font - Allows you to determine the font style, type, color and size of your Formation Tops data associated with the Formation Tops Long and Expanded Layers on your log.

Offscale Font - Allows you to determine the font style, type, color and size of your curve values displayed when the curve pegs off scale.

Core Box Font - Allows you to determine the font style, type, color and size of your Core Box data entered in the Core Box layer.

Casing String Font - Allows you to determine the font style, type, color and size of your Casing string data displayed on the Casing String layer. This data is entered trhough the Casing String Report.

Date Font - Allows you to determine the font style, type, color and size of your Date data entered in the Date layer.

Core Sample Code Font - Allows you to determine the font style, type, color and size of your Core Plug data entered through the Core Plug Report. This font is displayed on the Core Sample Code layer.

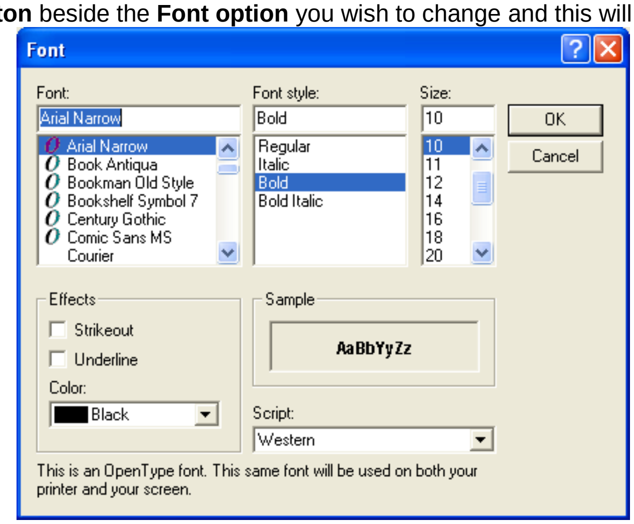
Sidewall Core Font - Allows you to determine the font style, type, color and size of your Sidewall Run and Sample Number data entered through the Sidewall Core Report. This font is displayed on the Sidewall Core layer.

MDT Font - Allows you to determine the font style, type, color and size of your MDT Run and Test Number data entered through the MDT Report. This font is displayed on the MDT layer.

Set As Default Fonts This check box when activated will make the font setting in this window your defaults for any new log created regardless on the Fonts stored in the template.

How to Set your Fonts

1. **Click** on **System Options selection** under the **Options** menu selection To activate the System Options window.
2. Then **click** on the **Font Tab** to activate the Tab.
3. **Click** on the Set **button** beside the **Font option** you wish to change and this will activate the Font Window.



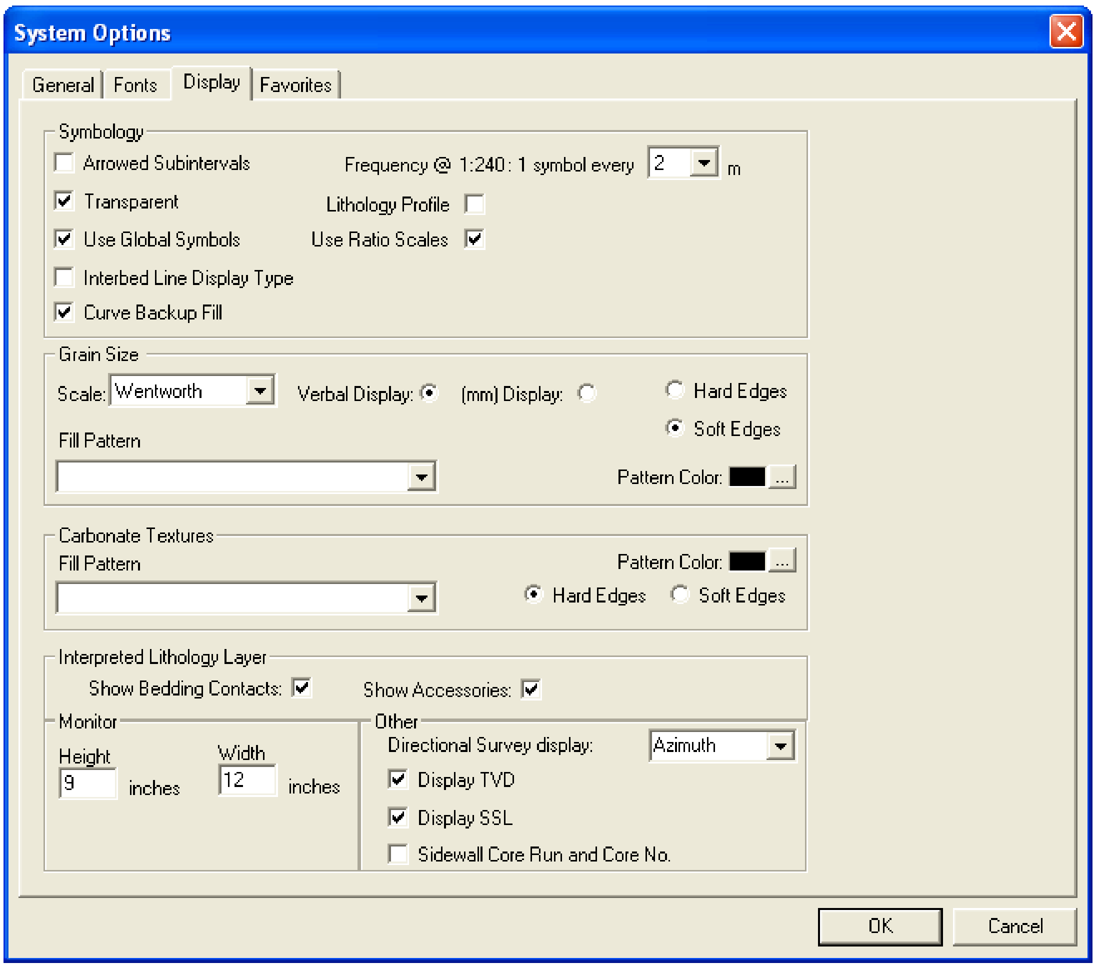
4. Select form the Font, Font Style, Size Effects and Color. When you are finished **click** on the OK **button**
5. Repeat steps 2-4 for all Font types.
6. **Click** on the Apply to Current Log **button.**
7. If you want to set these as your default Font settings **click** on the Set As Default Fonts **check box.**

8. **Click** on the OK **button** in the **Systems Options** Tab dialogue window**.**

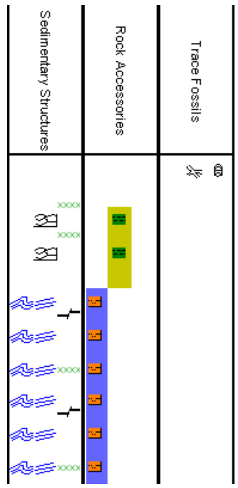
How to restore the System default Fonts

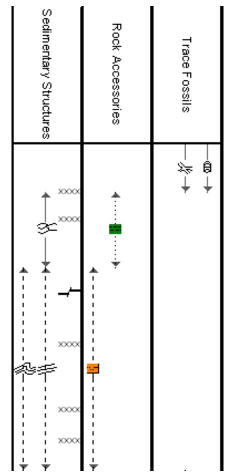
1. **Click** on **System Options selection** under the **Options** menu selection To activate the System Options window.
2. Then **click** on the **Font Tab** to activate the Tab.
3. **Click** on the Restore Defaults **button**.
4. **Click** on the Apply to Current Log **button.**
5. **Click** on the OK **button** in the **Systems Options** Tab dialogue window**.**

Display Tab



Arrowed Subintervals - This check box when activated will indicate the top and bottom of your subintervals (portion of an interval) with an arrow rather than a set of symbols. An example is shown below.



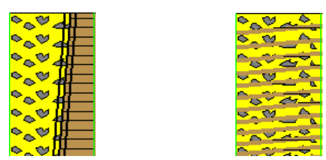


Normal Subintervals **Arrowed Subintervals**

Transparent - This check box when activated, this function makes the background of the accessory symbols transparent, so that the bed in the background shows through. If deactivated, a white background surrounds the accessory symbols in order to separate them more from the beds.

Use Global Symbols – With the ability to edit existing metafiles the user may have imported a well that has used metafiles or symbols that have been modified to look differently than the one existing within your system symbols. If you wish to use your symbol set instead of the revised imported ones you can select this check box to make that change.

Interbed Line Display Type - This check box when activated will display the interbed data with a line display splitting the two lithology types or when unchecked will display the lithology in an interbed fashion as displayed below.

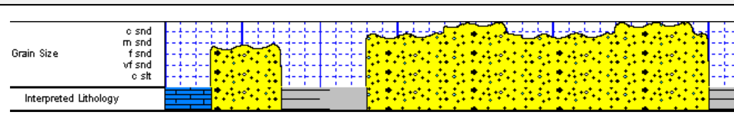


Curve Backup fill – This check box when activated will show a sideways hatching fill pattern when a curve goes off scale or in the backup mode. If unchecked there will be no hatching pattern when the curve goes off scale.

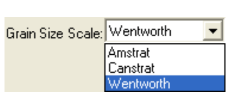
Frequency @ 1:240 – This drop box determines how often symbols are drawn on a **Lithology Layer**, with the scale of 1:240. For example: 1 symbol every 1 meter at 1:240, 2 symbols every 1 meter at 1:120, 1 symbol every 2 meters at 1:480, and so on. These frequencies are only in effect if you utilize the entire interval in **Oil Shows**, **Rounding**, **Sorting**, **Framework**, or designated an interval in **Sedimentary Structures**, **Traces Fossils** and Rock Accessories.

Lithology Profile - This check box when activated will fill in the Carbonate Texture and Grain Size layers with the interpretive lithology. It will draw the lithology to the maximum size filled in over the interval.

> Note: The user may wish to turn off the track borders when this option is selected. You will see an example of this shown below.



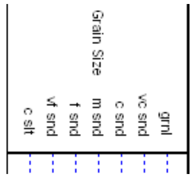
Use Ratio Scales - This check box when activated will modify the depth scales adding 1:200 and 1:500 to the normal ratio scales provided in the Metric Scales.



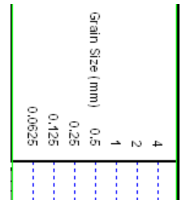
Grain Size Scale List box - You may choose between **Wentworth, Canstrat** or **Amstrat** scales, when using the **Grain Size Builder**. The Wentworth Grain size only allows full grain size while Canstrat / Amstrat allow half grain sizes when drafting in the Grain size and matrix layers.

Verbal Display: This radio button will display the **Grain Size Track header** with the equivalent verbal grain sizes such as such as C slt, VF snd, F snd, M snd, C snd etc.

Verbal Scale



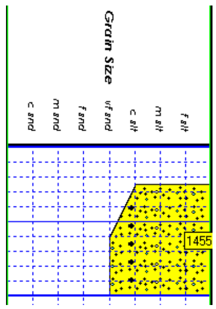
MM Scale



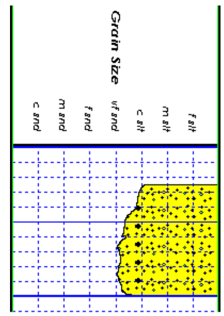
(mm) Display: This radio button will display the **Grain Size Track header** with the equivalent numeric grain sizes (in mm) such as .0625, .125, .25, .5, 1, 2 etc. as shown above.

Hard Edges This radio button will display the grain size with strait edges and right angles between the grain sizes. The illustration below is shown with Lithology Profile activated.

Hard Edges



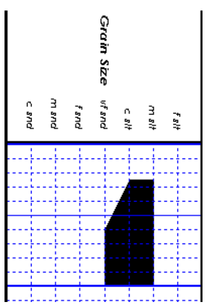
Soft Edges



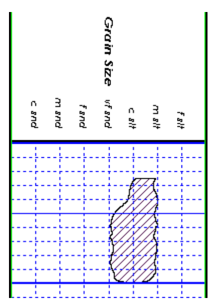
Soft Edges This radio button will display the grain size with curved edges and rounded angles between the grain sizes.

Grain Size Fill Pattern Upward hatch (left to right) at 45 degrees This drop box allows the user to select a hatching pattern when using the Grain Size Layer with the Lithology Profile not activate.

Grain Size Pattern Color: ... This color selector allows the user to pick the line color (foreground) when the fill pattern option is used. The background color is found in the Layer configuration for the Grain Size.



Grain Size No Pattern Hard edges



Grain Size Pattern Soft edges

Carbonate Texture Fill Pattern Upward hatch (left to right) at 45 degrees This drop box allows the user to select a hatching pattern when using the Carbonate Texture Layer with the Lithology Profile not activate.

Carbonate Texture Pattern Color: ... This color selector allows the user to pick the line color (foreground) when the fill pattern option is used. The background color is found in the Layer configuration for the Carbonate Texture Layer.

Carbonate Textures Hard Edges This radio button will display the grain size with strait edges and right angles between the Carbonate Textures. The illustration below is shown with Lithology Profile activated.

Carbonate Textures Soft Edges This radio button will display the grain size with curved edges and rounded angles between the Carbonate Textures.

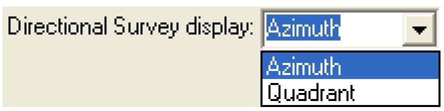
Interpreted Lithology Layer - Show Bedding Contacts: ☑ -When this check box ☑ is activated the bedding contacts (lines) between the drawn lithology types in the Interpretive Lithology Layer will be shown.

Interpreted Lithology Layer - Show Accessories: ☑ When this check box ☑ is activated it will turn on the accessories in the Interpretive Lithology Layer.

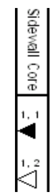
Monitor Height - This option allows you to scale your monitor for Power*Log / Core so you may correlate on-screen wells with hard copy logs that you may have. It is recommended that you take an opportunity to measure the vertical viewing area of your monitor in inches and then insert that value in the **Monitor Height** field. Be aware, however, that if you adjust the screen height knob on your monitor, this will affect the monitor height setting.

Monitor Width - This option allows you to scale your monitor for Power*Curve so you may correlate on-screen wells with hard copy logs that you may have. It is recommended that you take an opportunity to measure the horizontal viewing area of your monitor in inches and then insert that value in the **Monitor Width** field. Be aware, however, that if you adjust the screen width knob on your monitor, this will affect the monitor width setting.

Note: You must restart **Power*Log / Core & Curve** for the **Monitor Width / Height** changes to take effect.



This drop box option will display your directional surveys on your log in either Quadrant format N 62 º W) or Azimuth format (AZ 298 º)



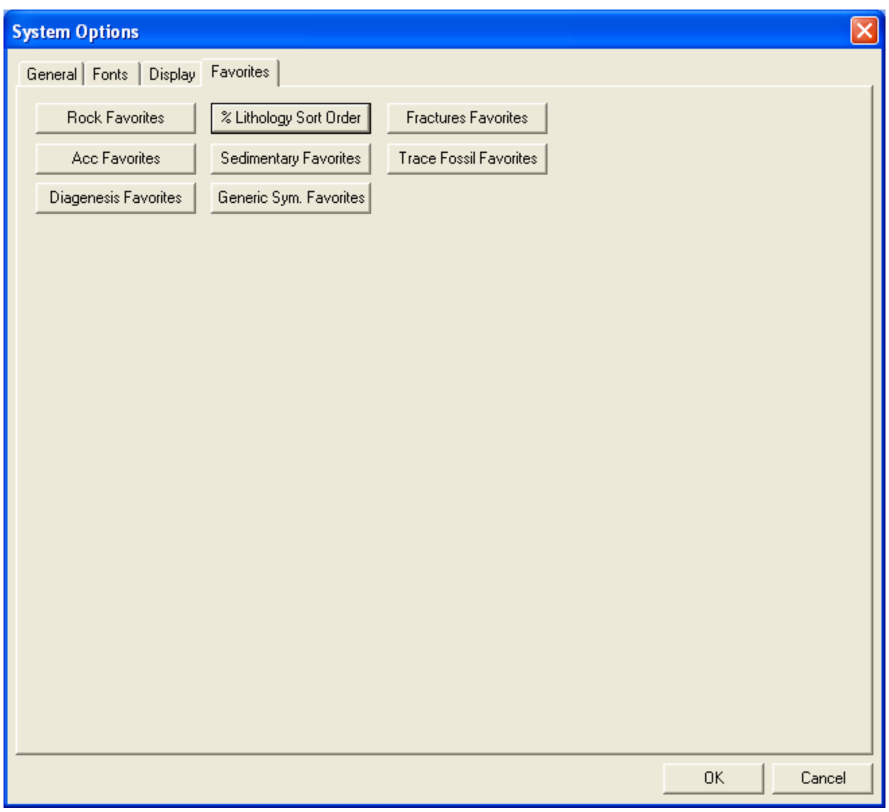
Display TVD check box ☑ when activated will display the survey point data with True Vertical depth values

Display SSL check box ☑ when activated will display the survey point data with Sub Sea values.

☑ Sidewall Core Run and Core No. This check box ☑ when activated will display the Sidewall Core Run & Core numbers above the core triangle indicator on the Sidewall Core layer.

Favorites Tab

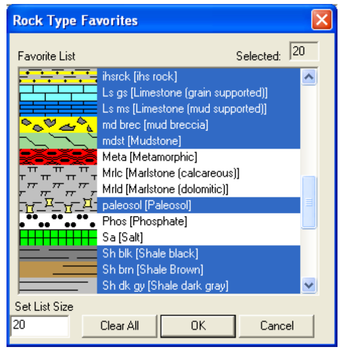
This tab allows the user to define their System favorites for all the data categories that support these choices. This tab dialogue also allows the user to access the % Lithology Sort order for the % Lithology Track.



Rock Favorites - The Rock Favorites **button** when activated allows the user to determine the number of the activation of the Rock Type Builder window in the Interpreted and Detailed Lithology tracks.

How to Change the Rock Favorites Selection

1. **Click** on the Rock Favorites **button** in the System Options window to activate the **Rock Type Favorites** window.

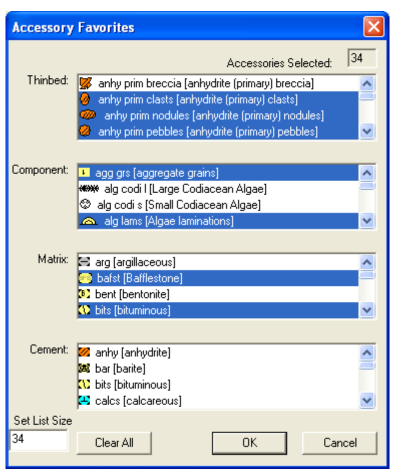


2. **Click** on the Clear All **button** in the Rock Type Favorites list window to prepare it for the selection of your Rock Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used Rock Types** from the Rock Type Favorites list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Accessory Favorites - The Acc Favorites **button** when activated allows the user to determine the number of favorites for their favorite Accessories and then displays them in a pop-up menu or Tool Box generated by the activation of the Accessory Builder window in the Interpreted and Detailed Lithology tracks.

How to Change the Accessory Favorites Selection

1. **Click** on the Acc Favorites **button** in the System Options window to activate the **Accessory Favorites** window shown below:



2. **Click** on the Clear All **button** in the Accessory Favorites list window to prepare it for the selection of your Accessory Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used Accessories** from the Accessory Favorites list window.

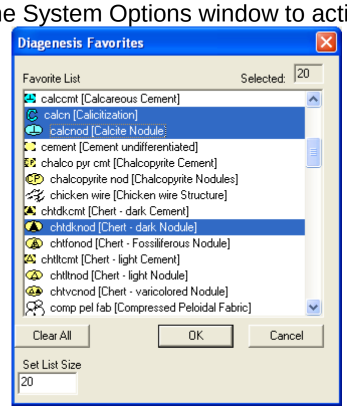
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Diagenesis Favorites Button

The Diagenesis **button** when activated allows the user to determine the number of favorites for their favorite Diagenesis list and then displays them in a pop-up menu generated by a right **click** in the Diagenesis layer / track along with a tool box when the layer is activated.

How to Change the Diagenesis Favorites Selection

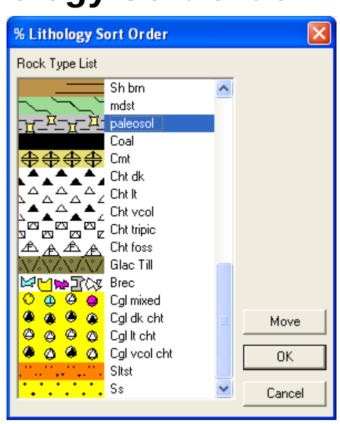
1. **Click** on the Diagenesis **button** in the System Options window to activate the Diagenesis window.



2. **Click** on the Clear All **button** in the Diagenesis Favorites list window to prepare it for the selection of your Diagenesis Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** Diagenesis from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Lithology Sort Order Button- % Lithology Sort Order This button activates a window that does the ordering of the % Lithology layer. The rock types listed in this window is the sort order from left to right in Power*Log and top to bottom in Power*Curve when the %Lithology Track / Layer is utilized. The sort order can be changed by the user at any time but will only take effect after the application has been reactivated. The % Lithology Sort Order Window is shown below.

How to Change the % Lithology Sort Order



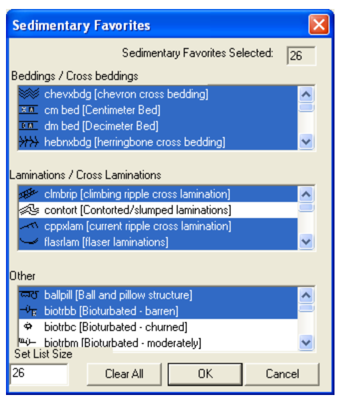
1. **Click** on **Systems Options** under the **Options** menu selection. This will activate the **System Options** window.
2. **Click** on the % Lithology Sort Order **button**. This will activate the **% Lithology Sort Order** window shown above.
3. **Select the Rock Type** the user wishes to move by clicking on the rock type once. This will highlight the rock type.
4. **Click** on the Move **button**. The Move button will then transform into a Move Start **button**.
5. **Select the Rock Type** you wish to move the previously selected type above **by clicking** on the **new rock type**. The previously selected rock type will now be placed above or to the left of the rock type you just clicked on.
6. If you wish to change the order of more rock types proceed with steps 3-5.
7. If you are pleased with the newly rearranged % Lithology Rock order **click** on the OK **button**. This will close the % Lithology Sort Order window and put the user back into the Systems Options window. Then, **click** on the Save **button** in the **System Options** window.

Sedimentary Favorites Button

The Sedimentary Favorites **button** when activated allows the user to determine the number of favorites for their favorite Sedimentary Structures list and then displays them in a pop-up menu generated by a right **click** in the Sedimentary Structures layer / track along with a tool box when the layer is activated.

How to Change the Sedimentary Favorites Selection

1. **Click** on the Sedimentary Favorites **button** in the System Options window to activate the Sedimentary Favorites window shown:



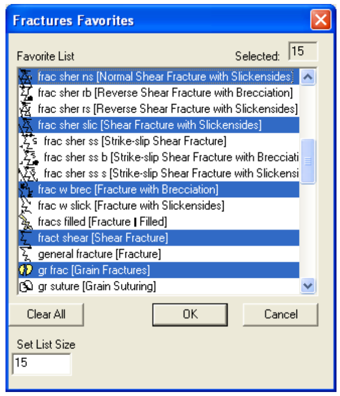
2. **Click** on the Clear All **button** in the Sedimentary Favorites list window to prepare it for the selection of your Sedimentary Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** sedimentary structures from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Fractures Favorites Button

The Fractures **button** when activated allows the user to determine the number of favorites for their favorite Fractures list and then displays them in a pop-up menu generated by a right **click** in the Fractures layer / track along with a tool box when the layer is activated.

How to Change the Fractures Favorites Selection

1. **Click** on the Fractures **button** in the System Options window to activate the Fractures Favorites window shown on the next page:



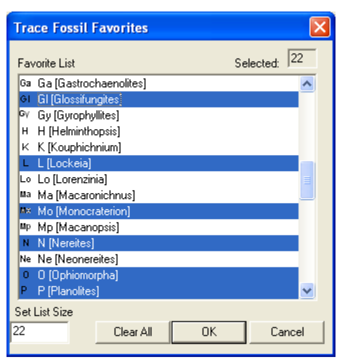
2. **Click** on the Clear All **button** in the Fracture Favorites list window to prepare it for the selection of your Fracture Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** fractures from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Trace Fossils Button

The Trace Fossil Favorites **button** when activated allows the user to determine the number of favorites for their favorite Trace Fossils list and then displays them in a pop-up menu generated by a right **click** in the Trace Fossils layer / track along with a tool box when the layer is activated.

How to Change the Trace Fossil Favorites Selection

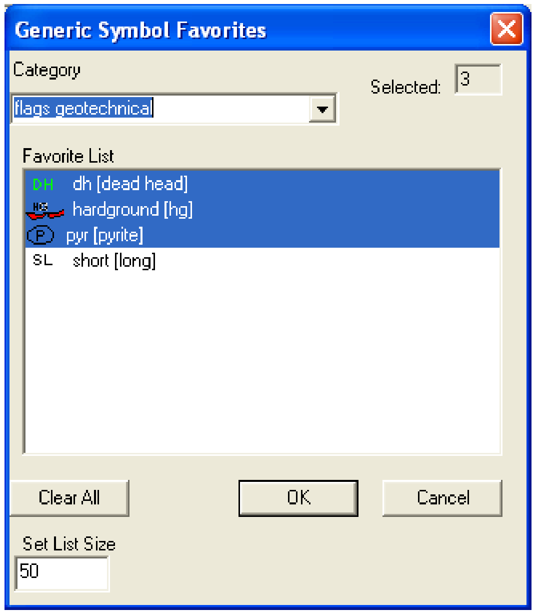
1. **Click** on the Trace Fossil Favorites **button** in the System Options window to activate the **Trace Fossils Favorites** window.



2. **Click** on the Clear All **button** in the Trace Fossils Favorites list window to prepare it for the selection of your Trace Fossil Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** Trace Fossils from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

How to Change the Generic Symbol Favorites Selection

1. **Click** on the Generic Sym. Favorites **button** in the System Options window to activate the **Trace Fossils Favorites** window.



2. Utilize the Category Drop box to select your Generic Symbol Group.
3. **Click** on the Clear All **button** in the Generic Symbol Favorites list window to prepare it for the selection of your Generic Symbol Favorites.
4. Select by **clicking on** or highlighting some of your more **commonly used** Generic Symbol from the list window.
5. **Click** on the OK **button** to return to the System Options window.
6. **Click** on the Save **button** in the System Options window, when you are finished.

Chapter Six - Window Menu

Cascade

Use this command to arrange multiple opened windows in an overlapping fashion.

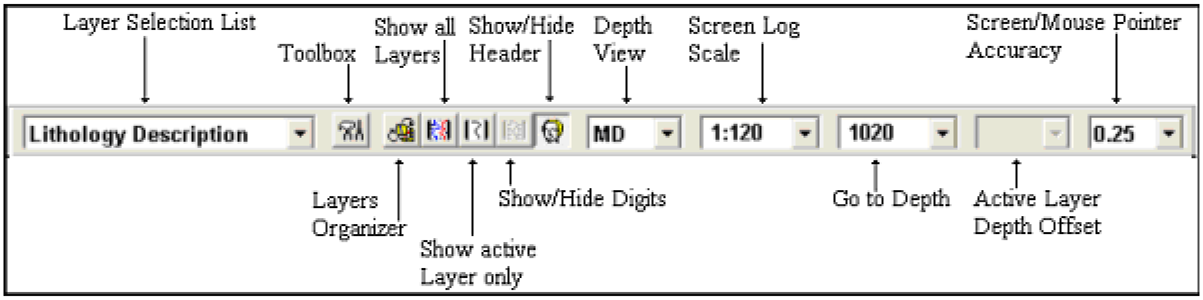
Tile

Use this command to arrange multiple opened windows in a non-overlapping, side-by-side fashion.

Arrange Icons

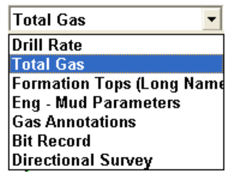
Use this command to arrange the icons for minimized windows at the bottom of the main window. If there is an open document window at the bottom of the main window, then some or all of the icons may not be visible, because they will be underneath this document window (minimize the open window or adjust the size to see all of the minimized windows).

Chapter Seven - Toolbar Functions



Layer Selection List

Located on the far left side of the Selection Bar, this field allows you to select or activate specific layers from the active track. The active layer's name is shown on the Toolbar, when the drop list is hidden.



The layers in the **Layer Selection List** are displayed according to this list. The layers drawn last in the track are displayed closer to the top of the list, while the layers drawn first are displayed towards the bottom of the list. The layer that is highlighted (in this case, **Total Gas**) will appear in the **Layer Selection List** field and is referred to as the **active layer**. The active layer is the only layer that can be edited. An indented layer is hidden or not shown on the active track/log. This list can be modified by the  **Layers Organizer button** on the toolbar or under the view menu selection

Data Editing Tools of Active Layer

Provides specific tools for editing the active layer 

Activating a Layer's Data Editing Tool

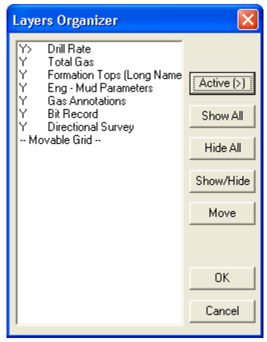
1. **Click** on the **track** that you wish to edit to make it active (the active track has a green outline).
2. Use the **Layer Selection List** to select the layer of the track that you wish to edit. The active layer's name should be displayed in the **Layer Selection List** field on the **Toolbar**.
3. **Double click** on the track (with the active layer), that you wish to edit **or click** on the  **Data Editing Tool of Active Layer button**.

Layers Organizer

Allows you to choose which layers of the active track are active or inactive and shown or hidden. 

Click on the track for which you wish to view the layers and the selected track will be highlighted with a green border.

Click on the  **Layers Organizer button** on the **Toolbar** to activate the **Layers Organizer** window for the active track.



The order of the layers on this list determines the order in which the layers are drawn on the track. The layer at the top of the list is drawn last and the layer at the bottom is drawn first. It's a good idea to put the most important layers nearest the top of the list, so that when drawn they are on the top. Remember that the active layer displays its grid pattern.
The layers that are shown on the track are marked with a "**Y**", the hidden layers are marked with an "**N**", and the active layer is denoted with a "**>**".

To show all layers, **click** on the Show All **button**. To hide all layers, **click** on the Hide All **button**. To toggle a specific layer between show and hide, highlight the layer and **click** on the Show/Hide **button**. You may also double **click** on a layer to change its current state. To make a layer active, highlight it and **click** on the Active (>) button.

Moving a Layer…

Highlight the layer and **click** on the Move **button**, which will then display, Move Start
Then, **click** on the layer that you wish to position the moved layer above.

Moving the Grid for an Active Curve layer…

1. Make a curve layer active by highlighting a curve layer and clicking on the Active (>) button
2. Highlight the **Movable Grid** selection and **click** on the Move **button**, which will then display, Move Start
3. **Click** on the layer over which the grid pattern will be placed and the **Movable Grid** selection will then move one line above the selected layer.
4. **Click** on the OK **button** to exit from the **Layers Organizer** window.

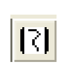
Show All Layers

Displays every log layer that exists in your active track 

To Show All the Layers of a given Track…

1. **Click** on the track you wish to view to make it active and it will be highlighted with a green border.
2. **Click** on **Show All Layers**, under the **View** menu selection, or **click** on the  **Show All Layers button** on the **Toolbar**.

Show Active Layer

Enables only the active layer, within the currently active track, to be seen on screen 

1. **Click** on the track you wish to view to make it active and it will be highlighted with a green border.

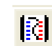
2. **Click** on **Show Active Layer**, under the **View** menu selection, or **click** on the  **Show Active Layer button** on the **Toolbar**.

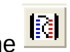
Show/Hide Header

Toggles between displaying the Header and removing it from the viewing area 

Click on **Show/Hide Header**, under the **View** menu selection, or **click** on the  **Show/Hide Header button** on the **Toolbar**.

Show/Hide Digits

This function will either display or hide digits from the grid of an active curve layer on your log. 

Click on **Show/Hide Digits**, under the **View** menu selection, or **click** on the  **Show/Hide Digits button** on the **Toolbar**.

Depth View Mode

1. **Click** on the down arrow on the 

Depth View mode selection on the Selection Bar and select the desired depth view for your Log.

Log Scales

Sets the screen scale to your specifications. The minimum screen scale is 1:5 and the maximum is 1:5000.

Changing the Scale of the Screen (Two Methods)…

1. **Click** on the **Log Scales** field to highlight the current scale, type in the new scale, and then press the **Tab** key to exit from the box and activate the new scale.

<u>OR</u>

2. **Click** on the **Log Scales field drop box** to display the values contained within the Log Scales drop down menu and then select the desired scale.

Go to Depth

You can easily go to specific depths on the active striplog, using this drop box on the Toolbar.

1. **Click in** the **Go to Depth** field.
2. **Type** in the **depth** in the **Go to Depth** field.
3. **Depress** the **Tab key** on your keypad activate your depth requirement and it will then be displayed at the top of the log.

Depth Offset of Active Layer

Lets you specify the Depth Offset of the active layer, if you have the Correlational Module.
Depth Offsetting can be described as shifting a data layer up or down in relation to the rest of the log.

Offsetting Layer Data…

1. **Click** on the track that contains the layer you wish to offset, to make it active.
2. Then, make the layer you want to offset active by selecting it from the **Layer Selection List**.
3. Now, **click** on the **Depth Offset of Active Layer** field to place the cursor in the field.
4. Next, type in a number to represent how far you want to offset the data of the active layer. A positive (+) number will move the data lower down the log, while a negative (-) number will move the data higher up the log.

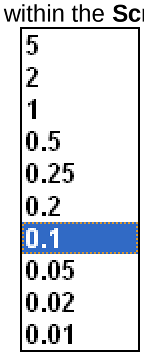
5. Press the **Tab** key on the keyboard to exit from the **Depth Offset of Active Layer** field and to initiate the offset.

Screen Accuracy

This drop box varies the depth increment of the mouse pointer as it moves on the log according to the screen accuracy selected in this drop box. This increases or decreases the accuracy of your mouse pointer, while locating more specific depths with your mouse.

Changing the Screen Accuracy of the Mouse Pointer

1. **Click** on the **Screen Accuracy** field to activate the drop down menu.
2. Select an available increment from the **Screen Accuracy** drop down menu by clicking once on the desired increment and your selection will be displayed within the **Screen Accuracy** field accordingly



Note: When you enter the **Data Editing Tool** window of a given layer, the interval will default to the lithologic interval of the record that you are working on at that time.

TRACK/LAYER TOOLBOX

Ages	Formation
Annotation	Annotations
Bedding Contacts	Interpretive Lithology Builder
Bioturbation	Bioturbation Builder
Bit Record	Bit Record Report
Carbonate Texture	Carbonate Texture
Carbonate Texture Matrix	Carbonate Texture Matrix Builder
Casing	Casing Data Entry window
Core	Core Report
Core Box Data	Core Box Data Builder
Core Plug Data	Core Plug Data Displays
Curve Fill	Curve Fill Editor
Curves	Curve Editor
Date	Drilling Schedule
Dip Meter	Dip Meter Data Entry Window
Directional Survey	Directional Survey Report
Detailed Lithology	Detailed Lithology
Diagenesis	Diagenesis Builder
Energy Change	Visual Range Builder
Formation	Well Formation
Fractures	Fractures Builder
Framework	Framework
Generic Category	Generic Category Builder
Generic Symbols	Generic Symbols Builder
Grain Size	Grain Size Builder
Grain Size Matrix	Grain Size Matrix Builder
Graphics	Graphics Editor
Hole Dip Meter	Dip Meter Data Entry Window
Lithology Description	Annotation (Lithology Description layer)
Lithology	Rock type builder and Accessory Builder
Multi Array Curve Data layer	Multi Array Layer Builder
MDT	MDT Data Entry window
Oil Show	Hydrocarbon Show
Oil Staining	Oil Staining
Percent Lithology	Percent Lithology Builder
Percent	Percent Builder
Porosity Percent	Porosity Grade
Porosity Type	Porosity Grade
Rock Accessories	Rock Accessories Builder
Rounding	Rounding
Sedimentary Structures	Sedimentary Structures Builder
Sidewall Cores	Sidewall Cores Report
Sneider’s Rock Type (Core)	Sneider’s Rock Type (Core) Builder
Sneider’s Rock Type (Geo)	Sneider’s Rock Type (Geo) Builder
Slide / Rotate	Slide / Rotate
Sorting	Sorting
Test	Test Report
Trace Fossils	Trace Fossils Builder

Chapter Eight - Log Layers

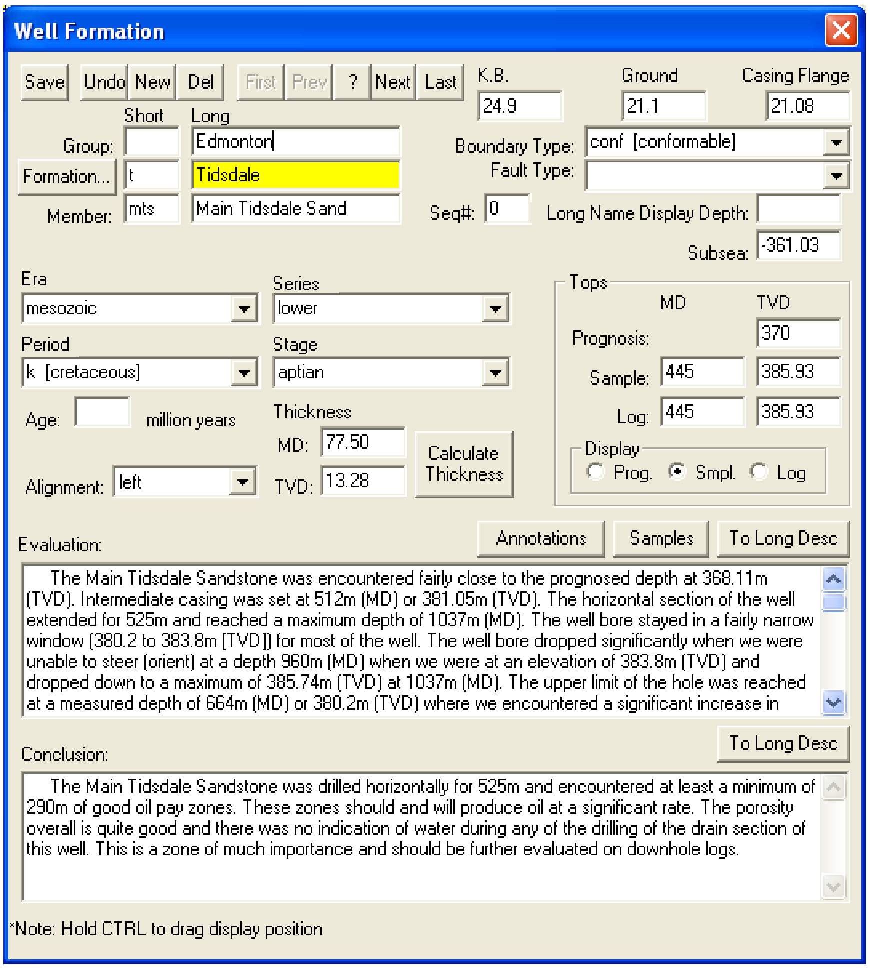
Ages Layer

This layer allows you to display the formation ages on the log.

Adding a Formation / Age

1. **Double click** on the **Ages** track / layer to activate the **Well Formation** window shown below. The user can also click on **Formation**, under the **Reports** menu selection.

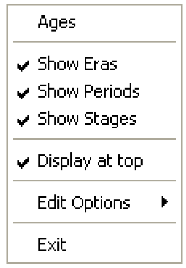
2. Enter in the necessary information and **click** on the Save **button**

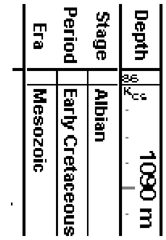


Note: The information entered into the Era, Series/Period and Stage is represented in this track / layer. The top depths are entered into the Sample Top (MD) field. If the Eras, Series/Period and Stages are all identical they will run together as a continuous age.

To Change the Display

1. **Right click** on the **Ages track / layer** to activate the pop out menu. And click on one of the selections.



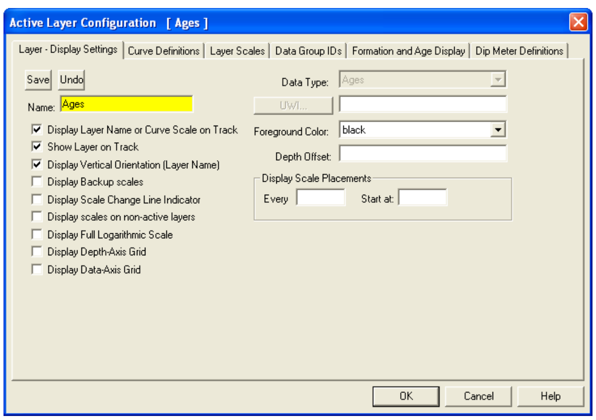


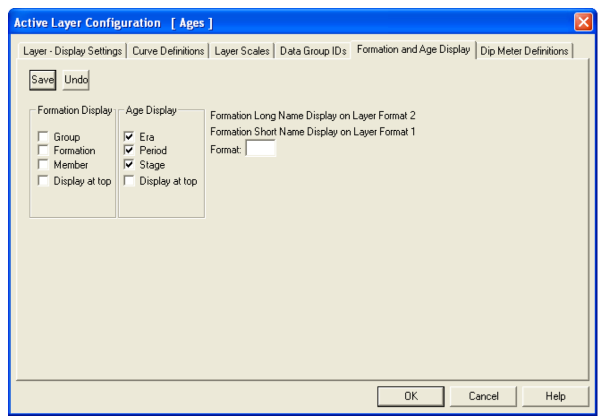
The example above has the Eras, Periods and Stages portions of the track / layer all turned on. Also the Ages are displayed at the top of the interval versus the middle of the interval.

2. A second way to change the Ages display is to make the Ages layer active by **clicking** on the **Ages track** and **selecting** the **Ages layer** from the layer selection list.

3. **Click** on the **Layer Configuration button** on the **Toolbar** or click on the **Layer Configuration** under the **Edit** menu selection. This will activate the **Ages Layer Configuration** window.

4. **Click** on the **Formation and Age Display Tab** to activate the window shown below. The user can now select which part of the ages they wish to display along the vertical axis of the log and also whether they wish to display the data at the top or middle of the interval.

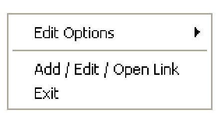




5. **Click** on the Save **button** to Exit and Save the Layer configuration settings.

All Log layers - Link Layer

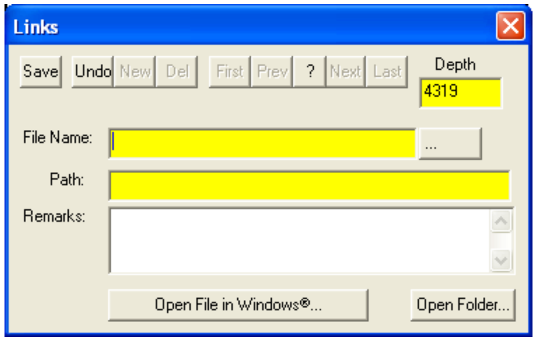
This is available in any layer on the right click menu. It gives the user the ability to add a link any file and will open if it has a windows compatible application.



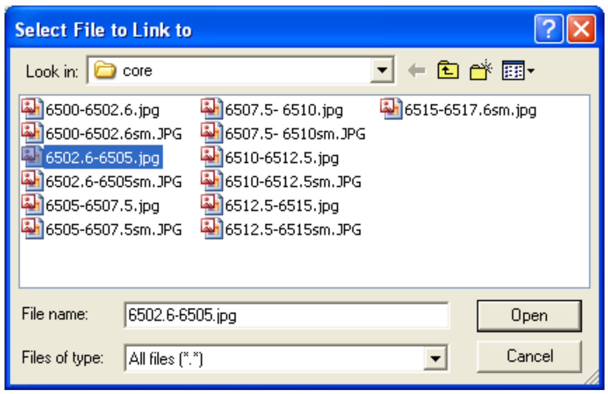
How to Add a Link to any Layer

1. **Right Click** on any layer and you will get (at a minimum) this pop out menu options. If the builder was open you would probably get more options.

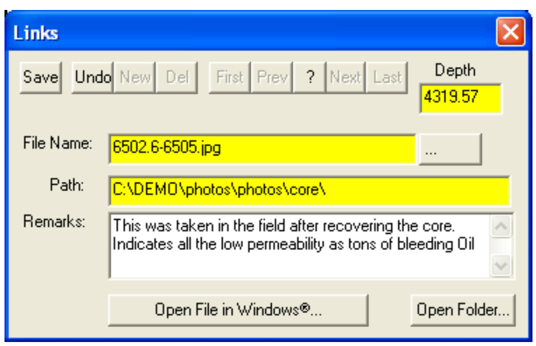
2. **Select Add / Edit / Open Link** and if no Link exists you will get an Empty Links Window as shown below with the Depth field filled in with the depth you right clicked at.



3. **Click** on the  **button** to locate the file you want to link to the layer. This will activate the Select file to Link to window shown below



4. Navigate to the file you wish to link to your log and **Highlight the file name** and then **click** on the  **button**. This will fill in the Links window with the file name and path portion of the Links window as shown below.



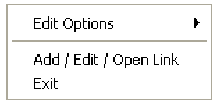
5. **Type** in any **Remarks** in the Remarks field that you want to explain the link and then **Click** on the  **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

You will now see a paperclip symbol on the layer.

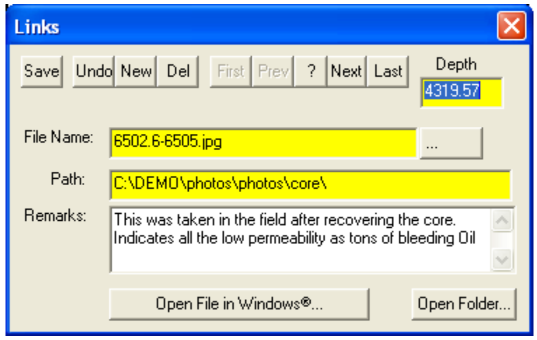
N.B. If the well is then Exported (Data Transfer Module) creating an *.exp file and then Imported (Data Transfer Module) the data files and links imbedded into the Original Log are then redirected and inserted into into the install folder for Power*Suite. The default install folder structure would be C:\PowerSuite_V12|Linked_Files with the original name of that file.

How to Edit a Link to any Layer

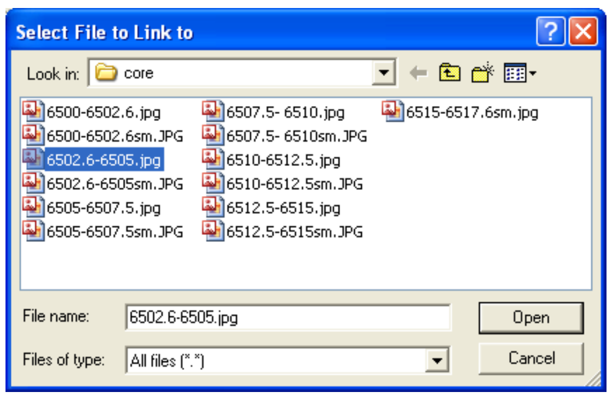
1. **Right Click** on any track / layer where you see a paperclip symbol and you will get (at a minimum) this pop out menu options.



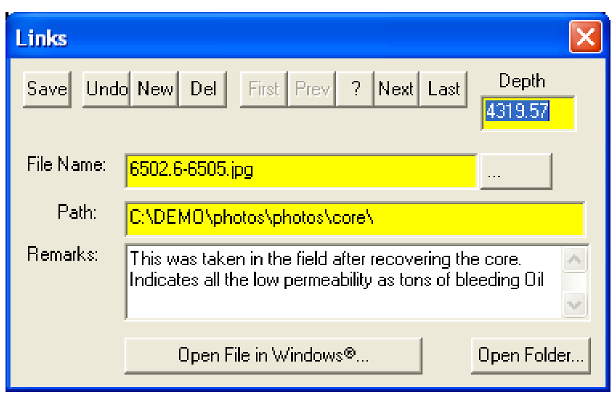
2. **Select Add / Edit / Open Link** and if a Link exists you will get a Links Window as shown below with the fields filled in.



3. **Click** on the  **button** to locate a different file you want to link to the layer. This will activate the Select file to Link to window shown below



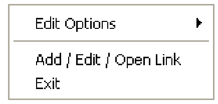
4. Navigate to the file you wish to link to your log and **Highlight the file name** and then **click** on the  **button**. This will fill in the Links window with the file name and path portion of the Links window as shown below.



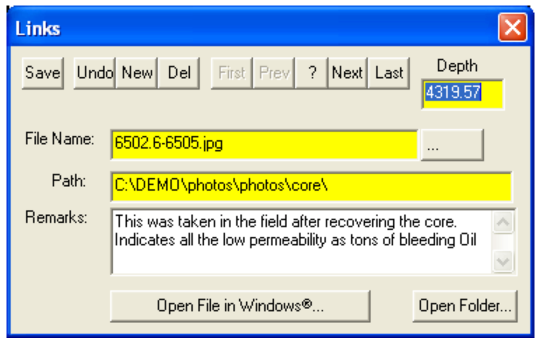
5. **Change** the **Remarks** in the Remarks field that you want to explain the link and then **Click** on the  **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

How to Delete a Link to any Layer

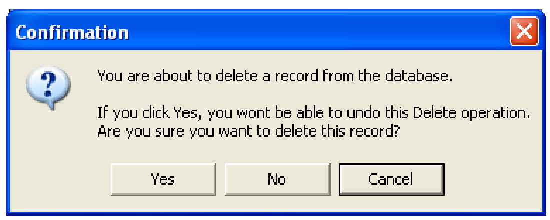
1. **Right Click** on any track / layer where you see a paperclip symbol and you will get (at a minimum) this pop out menu options.



2. **Select Add / Edit / Open Link** and if a Link exists you will get a Links Window as shown below with the fields filled in.



3. **Click** on the Del **button**. This will activate a Confirmation Message window.

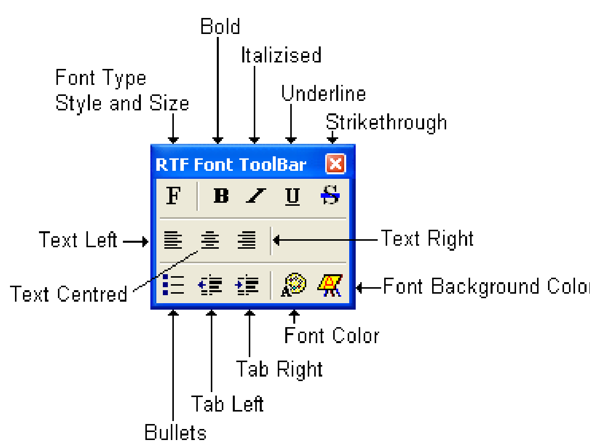


4. **Click** on the Yes **button.**

Annotations

These toolbars allow you to add, edit, move or delete Annotations / Lithology Descriptions in an Annotation or Lithology Description track.

<u>Note</u>: There is an annotation layer available throughout the whole log that allows you to add, edit and delete an annotation anywhere within the log. Refer to the Log Layer section within chapter 2.



Overview of RTF Font Toolbar buttons.

F At the flashing cursor or with some text highlighted this button will activate a Font Dialogue window to change Font Type, style, size etc.

B At the flashing cursor or with some text highlighted this button will activate a Bold Font style.

At the flashing cursor or with some text highlighted this button will activate an Italic Font style.

U At the flashing cursor or with some text highlighted this button will activate an Underline Font style.

At the flashing cursor or with some text highlighted this button will activate an Strikethrough Font style.

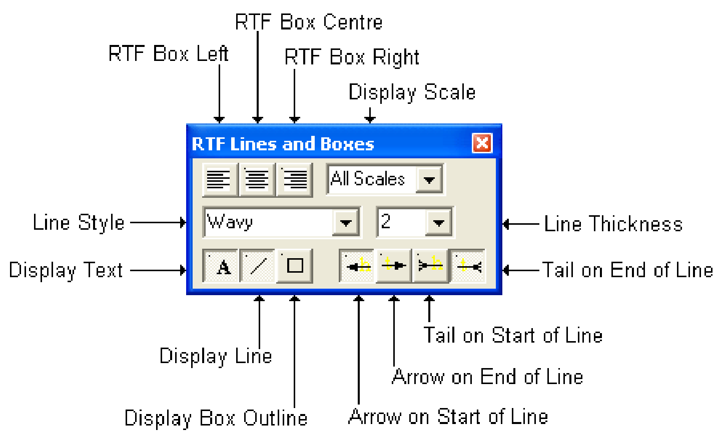
At the flashing cursor or with some text highlighted these buttons will orient the text line or paragraph left, centered or right within the box outline.

At the flashing cursor or with some text highlighted this button will place a bullet at the start of the text line or paragraph.

At the flashing cursor or with some text highlighted these buttons will indent or tab the text line or paragraph either left or right.

At the flashing cursor or with some text highlighted this button will activate a new Font color.

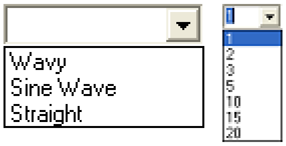
At the flashing cursor or with some text highlighted this button will activate a Font background color.



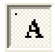
Overview of RTF Lines and Boxes Toolbar buttons.

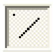
Left Right Centered Text boxes: With the text box or annotations outline activated these buttons will orient the text box left, centered or right within the track borders. The user can also click and drag on the box outline to any orientation on the track which will override these buttons.

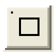
Display scale drop box: This allows the user to change the display scale for each annotation to adapt to the printed or viewing scale of the log. The All Scales selection will display the annotation at all viewing and printing scales from 1:5 to 1:5000. If you select a different display scale then the annotation will be viewed at that viewing and printing scale and smaller. Anything larger than the display scale and the annotation will not be viewed or printed. This should alleviate the annotations overlapping each other when printed out on different scales. For example if the user were to choose 1:120 the annotation would show up on viewing / printing scales from 1:120 to 1:5 and not show up on scales from 1:121 to 1:5000.

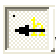


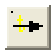
Line Style Selector and Line Thickness drop boxes: These drop boxes allow the user to select a different line style for their drawn line as well as the line thickness for the line that is associated with each individual annotation. You can only have one line per annotation. The line can only be redrawn and not moved.

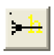
 This button will show / hide the text for a particular annotation.

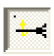
 This button will show / hide the line for a particular annotation.

 This button will show / hide an outline around the annotation. The grey box you see around all annotations will not be printed. Only when this button is activated will the box be printed.

Will show / hide an arrow pointer at the end of a line draw.

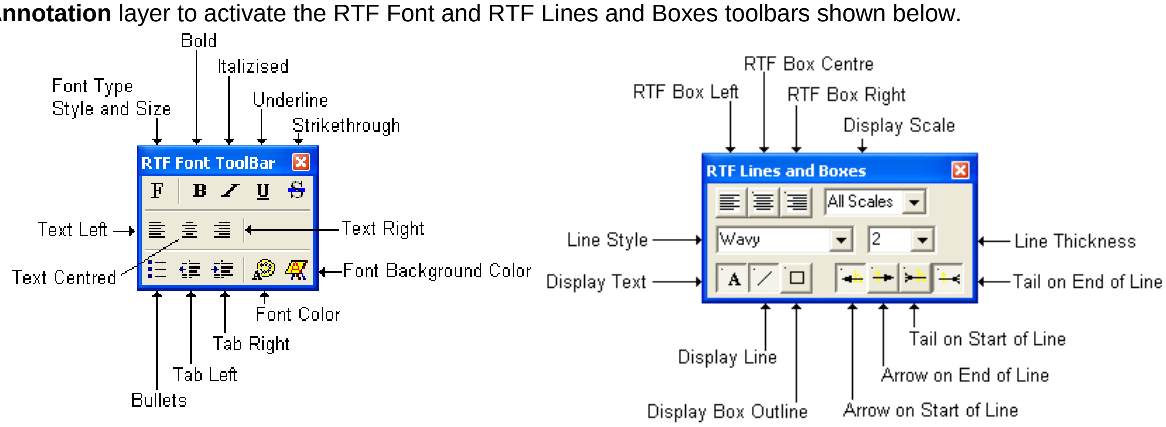
 Will show / hide an arrow pointer at the start of a line draw.

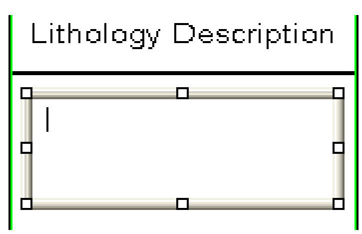
 Will show / hide a tail at the end of a line draw.

 Will show / hide a tail at the start of a line draw.

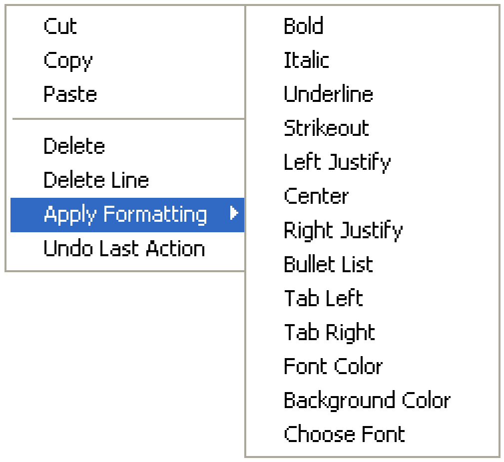
Adding Annotations / Lithology Descriptions…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes toolbars shown below.





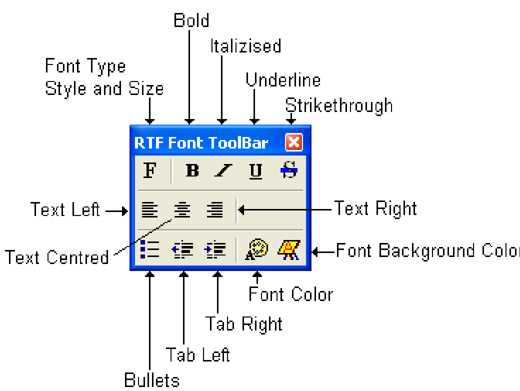
3. **Type in your annotation.**
4. Utilize the options in the **RTF Font** and **RFT line and box toolbars** to get the desired effect on your annotation. To change individual font characteristics you would highlight the font by clicking and dragging and then select the button from the toolbar or utilize the user **right click inside the annotation field** and **select** the **Apply formatting** selections to change the font style color etc.

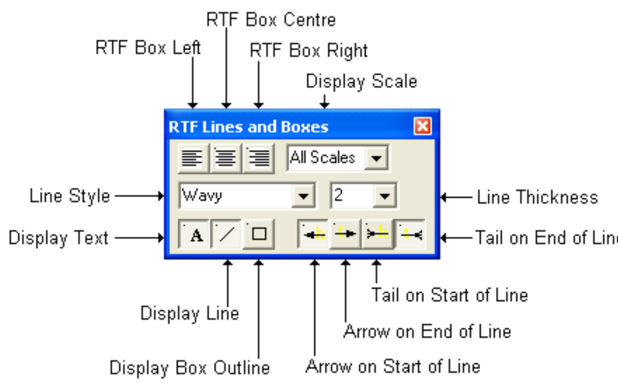


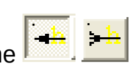
5. If you would like to **undo** the last action taken within an annotations formatting the user can **right click inside the annotation field** and select the **Undo Last formatting** selection.
6. **Click anywhere outside** the **annotation box** to close the toolbars. **Repeat** steps **2-6** for more annotations.

Drawing a Line…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes toolbars shown below. **Or** just **click on** an **existing** annotation that does not have a line associated with it.





3. **Click** and **drag the mouse** and a line will be drawn. The drag must start anywhere outside the highlighted or drawn area of your highlighted annotation and inside the confines of the track and remain inside the track boundaries.
4. **Release the mouse** and the line will be drawn. Utilize the  buttons for arrow heads and tails. Also line style and thickness drop boxes can be used to further define your drawn line.
5. **Repeat step 3** to redraw the line**.**
6. **Click anywhere outside** the **annotation box** to close the toolbars. **Repeat** steps **2-6** for more annotations.

Editing Annotations/Lithology Descriptions…

1. Make the Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

2. **Click** in **annotation field box** to highlight the field and activate the RTF Toolbars.
3. Edit this field as you normally would utilizing the keypad, mouse and toolbars to edit anything inside this annotation field or add a line.
4. **Click outside** of the highlighted text field to close the toolbars.

Resizing Annotations/Lithology Descriptions…

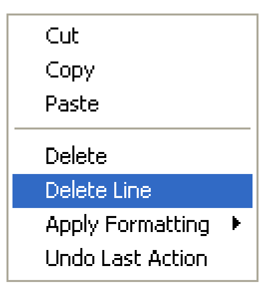
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** in **annotation field box** to highlight the field and activate the RTF Toolbars.
3. Place the mouse pointer over one of small boxes (☐) used to define the outline around the **Annotation/Lithology Description** and the mouse pointer will transform into a double arrow(⇳).
4. **Click** and **drag** the mouse pointer to define the new size for the **Annotation**.
5. **Release** the **mouse button**, and the Annotation/Lithology Description will be redrawn within its newly defined area.
6. **Click outside** of the highlighted text field to close the toolbars.

Moving Annotations/Lithology Descriptions…

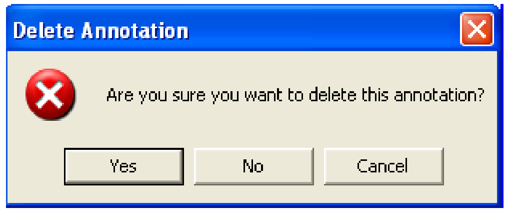
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** on **annotation field box** to highlight the field and activate the RTF Toolbars.
3. **Move** the mouse pointer <u>on</u> the highlight surrounding the selected **Annotation/Lithology Description** and the mouse pointer will transform into the shape of a cross with four arrows.
4. **Click and drag** the mouse pointer to the **Annotation's/Lithology Description's** new position.
5. **Release** the mouse button, and the **Annotation/Lithology Description** will be redrawn at its new location.
6. **Click outside** of the highlighted text field to close the toolbars.

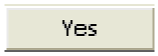
Deleting Annotations/Lithology Descriptions…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** in **annotation field box outline** to highlight the field and activate the RTF Toolbars.
3. **Right Click** anywhere **within the Annotation field** that is highlighted to activate the pop-up menu.



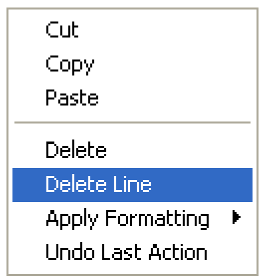
4. **Click** on the **Delete** selection and you will receive the following system message.



5. **Click** on  **button** and the selected Annotation/Lithology Description will be deleted accordingly.
6. **Click outside** of the highlighted text field to close the toolbars.

Deleting Lines associated with Annotations…

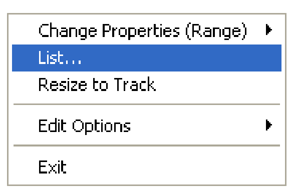
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** in **annotation field box outline** that is associated with the line to highlight the field and activate the RTF Toolbars.
3. **Right Click** anywhere **within the Annotation field** that is highlighted to activate the pop-up menu.



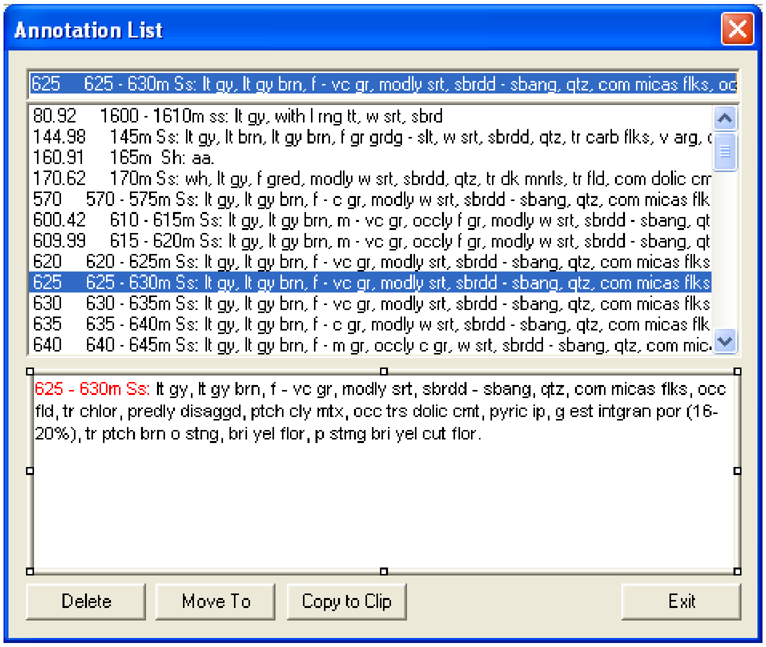
4. **Click** on **Delete Line selection** and the Line will be deleted and the Annotation toolbars will automatically close for you.

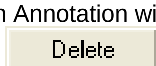
Using the List functionality to copy, move to and delete annotations.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.

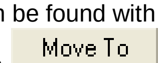


3. **Click** on the **List Selection**. This will activate a List box shown below.

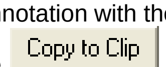


4. To **delete** an Annotation with the list active scroll through the list and **click** on the **annotation** you wan to delete. **Click** on the 

button. This will delete the annotation.

5. To **Move to** a depth where an Annotation can be found with the list active scroll through the list and **click** on the **annotation** you wan to move to. **Click** on the 

button. This will move you to see the annotation on the log.

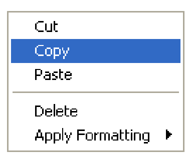
6. To **Copy** an Annotation with the list active scroll through the list and **click** on the **annotation** you wan to move to. **Click** on the 

button.

7. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes.

7. **Click** once more **in the drawn area** and you will get a flashing cursor.

8. **Right Click** anywhere **within the Annotation field** that is highlighted to activate the pop-up menu.

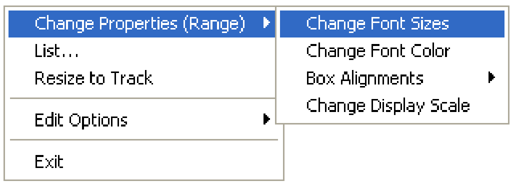


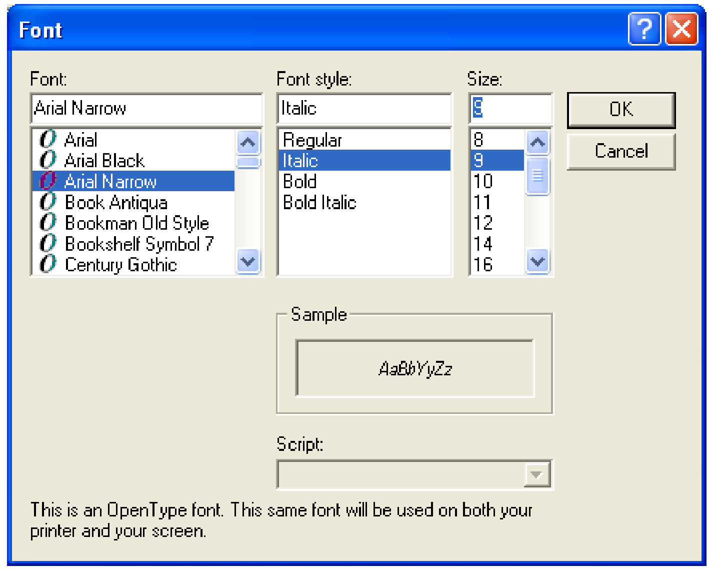
9. **Click** on the **Copy Selection** and you will see your annotation refreshed from what was copied to the clipboard in step 6.

Globally Change the Annotation Font Properties.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

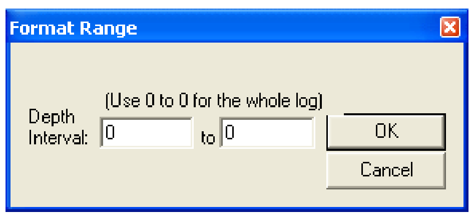
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.





3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.
4. **Click** on the **Change Font Sizes selection** to activate the Font Window shown above.
5. **Select** the **appropriate Font, Font Style and Size** from their **drop boxes**.
6. **Click** on the 

button. This will activate the Format range window.

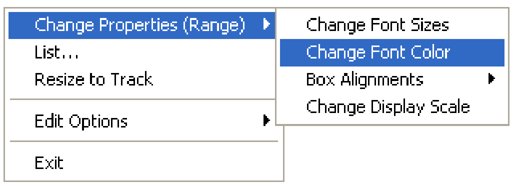


7. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
8. **Click** on the 

Button. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Annotation Font Color.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.

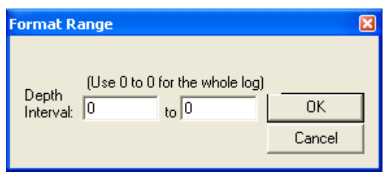


3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.

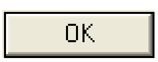
4. **Click** on the **Change Font Color selection** to activate the Color Window shown above.

5. **Select** the **Color** from the Color palette or define a custom color.

6. **Click** on the  **button**. This will activate the Format range window.



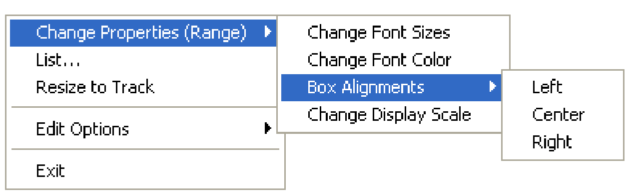
7. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.

8. **Click** on the  **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Annotation Box Alignments.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

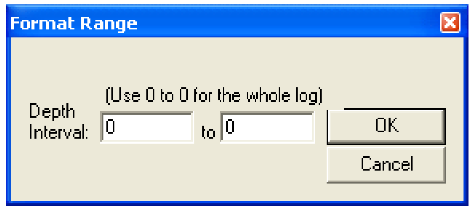
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.



3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.

4. **Click** on the **Box Alignments selection** to activate another pop out menu.

5. **Select** either **left Center or** Right from the pop out menu. This will activate the Format range window.



6. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.

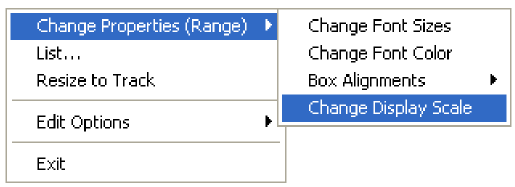
7. **Click** on the 

Button. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Annotation Display Scale.

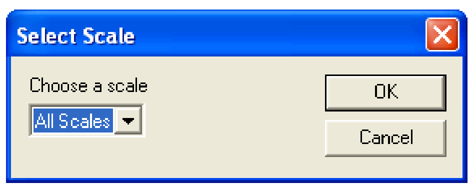
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.



3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.

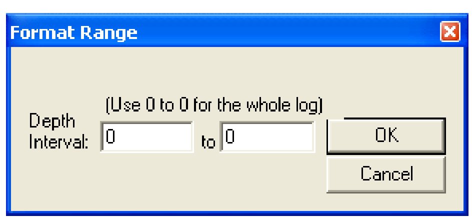
4. **Click** on the **Change Display Scale selection** to activate the Select Scale Window.



5. **Choose** the **appropriate scale** from the **drop box.**

6. **Click** on the 

button. This will activate the Format range window.



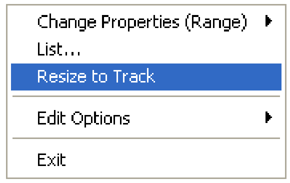
7. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.

8. **Click** on the 

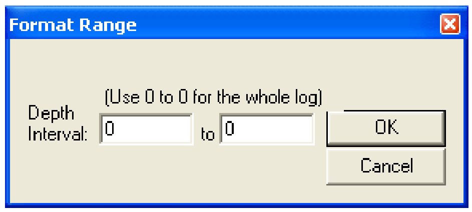
Button. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Box placements to fit in the Track width.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.

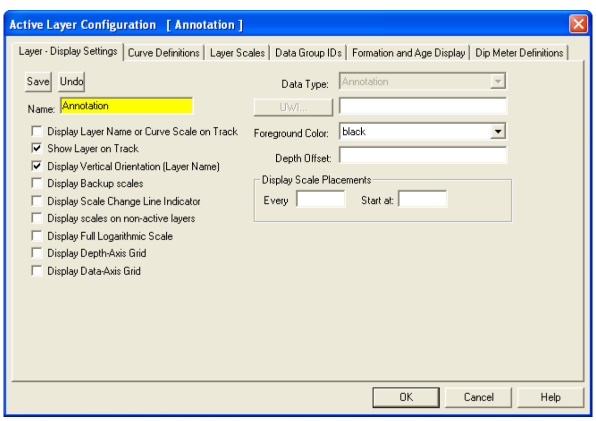


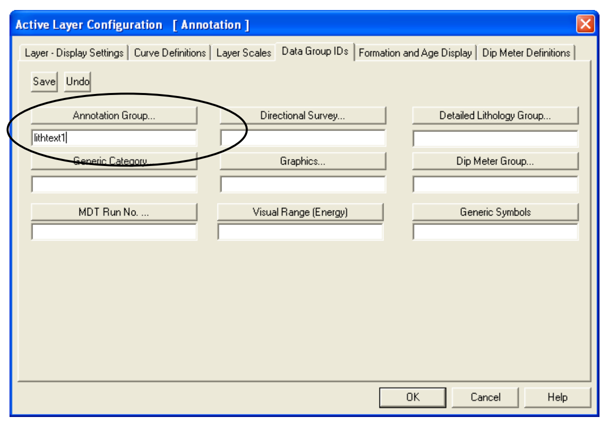
3. **Click** on the **Resize to track selection**. This will activate the Format range window.



4. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
5. **Click** on the  **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the Annotation layer are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Annotation** layer is active. You can display different annotation groups on a layer through the Data Group ID's tab





Bioturbation Layer

This layer allows you to add or delete Degrees or intensities of Bioturbation in the Power*Core application. There are two types of Bioturbation layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

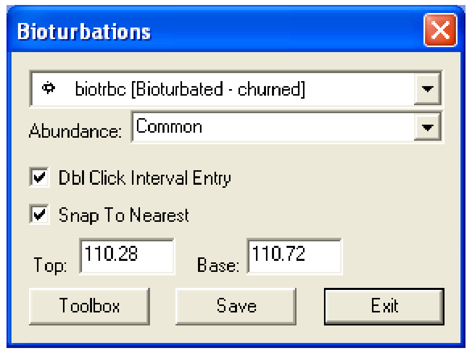
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a degree of **Bioturbation**. The Degrees of Bioturbation are also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the Degree of Bioturbation may be also resized or deleted if the trace fossils interval coincides with the beds resized or deleted interval.

The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Degree of Bioturbation

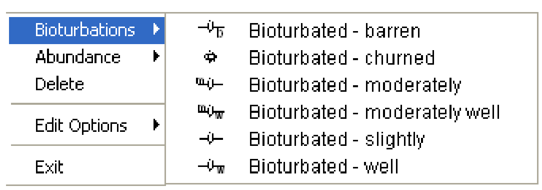
Note: All bed restricted description categories, such as Degree of Bioturbation **(BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a Degree of Bioturbation, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Bioturbation track / layer** to activate the **Bioturbations** window.

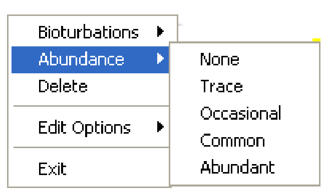


2. **Right click** anywhere on the **Bioturbation** track / layer to activate the pop-up menu.

3. **Click** on the **Bioturbation** selection to activate the pop out menu and then select from the pop out list or **click in the builder drop down menu** selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 with the abundance that has been selected in step 4 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The bioturbation interval will be drawn accordingly.

6. **Double Click** within an existing rock type interval in the Bioturbation layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the **Bioturbation** window.

7. **Click and drag** the mouse on the track / layer close to an existing Bioturbation Symbol (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the bioturbations. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.

Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **5** to add more degrees of Bioturbation to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Bioturbation Builder** window.

Resizing an Interval

1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations** window.

Mouse Pointer Method

2. **Click** on the **symbol** you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕.
4. . **Release the mouse button** and the interval will be resized.

Keypad Method

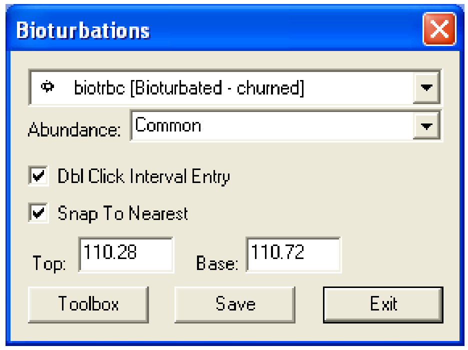
1. **Click once** on the Bioturbation Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations** window.
2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a ✥ if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations** window.

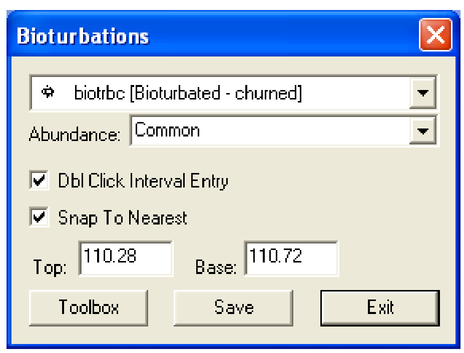


2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.

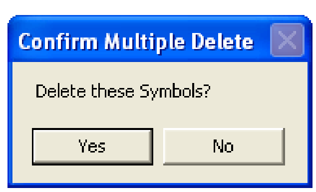
3. **Click** on **Delete** and the **Degree of Bioturbation** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Degree of Bioturbation** intervals from the **Bioturbation** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Bioturbations Builder** window.

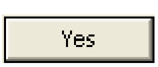
Deleting Multiple Intervals

1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbation Builder** window.



2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.

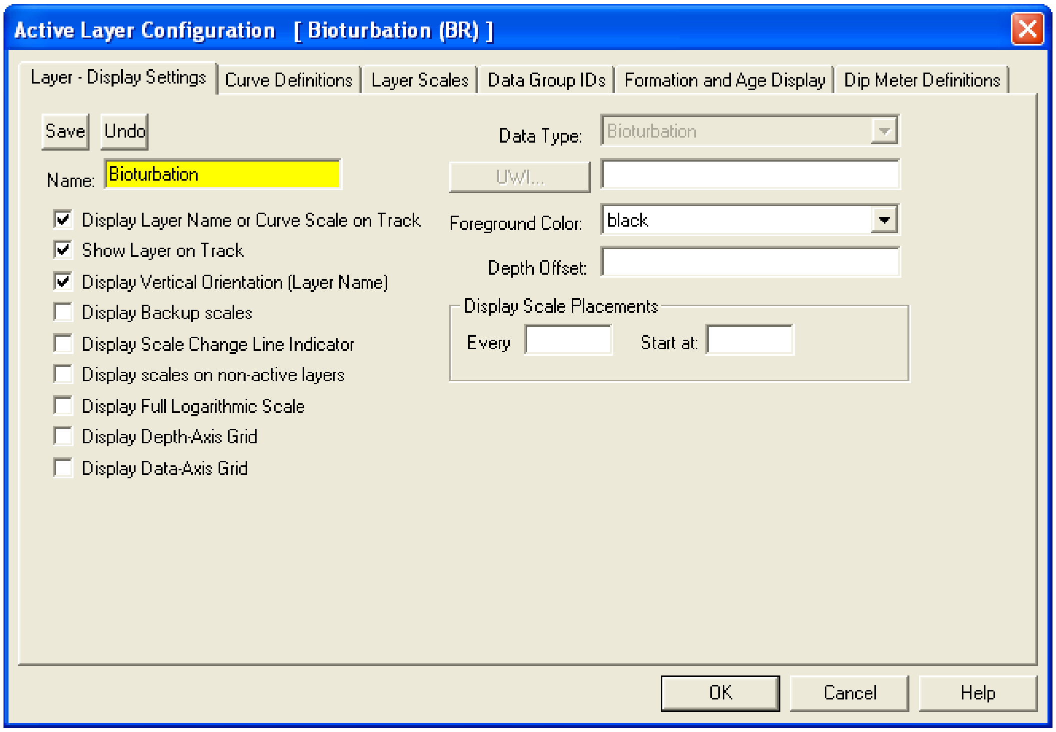


4. **Click** on 

button and the **Bioturbation** interval encompassed with your drag will be deleted accordingly.

5. Press the **Esc** key on the keyboard to exit from the **Bioturbation Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Bioturbation** layer are shown below. To access this window, click on the **Layer Configuration**  **button** on the **Toolbar**, when the **Bioturbation** layer is active.

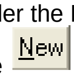


Bit Record Layer

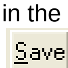
This layer allows you to display some of the Bit Record information on the log.

Adding Bit Record Data

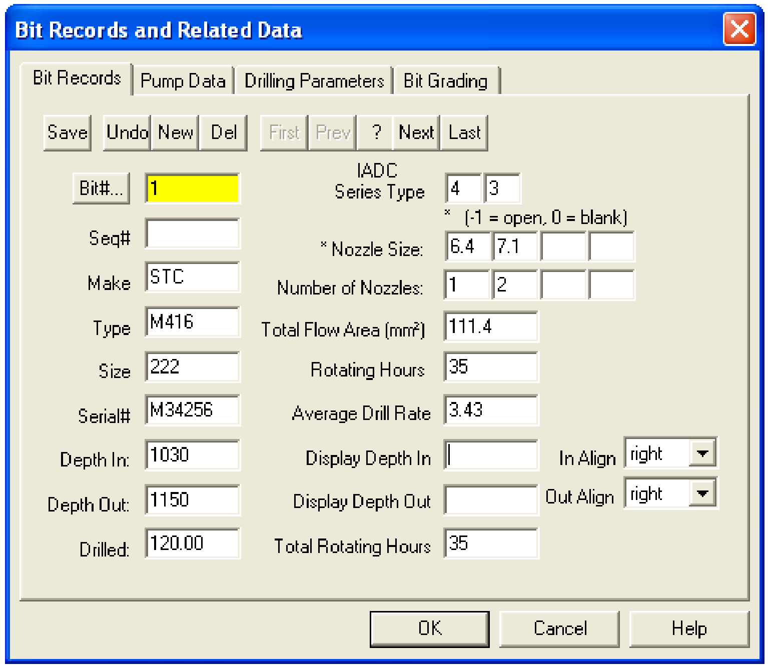
Double click on the **Bit Record layer** to activate the Bit Record window shown below. The user can also click on Bit Record, under the Reports menu selection.

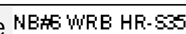
Click on the 

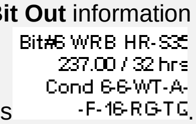
button or press ALT-N and then fill in the report window with your data.

When you have finished adding your data, **Click** on the 

button or press ALT-S and then click on the appropriate button out of the ensuing Shortcut Options window.



Note: The **Bit In** information consists of Bit #, Make, and Type 

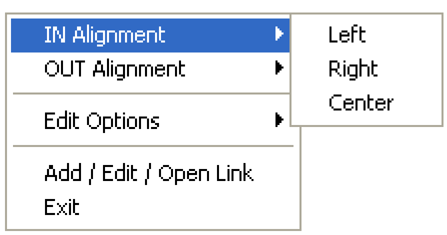
, while the **Bit Out** information consists of Bit #, Make, Type, Meters Drilled, Rotating Hours, and either Bit Grading Systems 

. This information is displayed on the Bit Record Layer

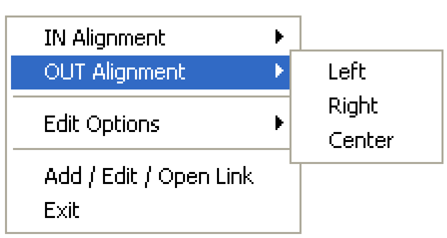
To Change the Display

1. **Double Click** on the **Bit Record track / layer** to activate the Bit Record data entry window
2. **Right click** at the **depth** on the **Bit Record track / layer** where the data to change is to activate the pop out menu. And click on one of the selections.

In Alignment Option – **Right click** on the **Bit Record layer** at the **In depth** of the bit record to change to activate the pop out menu seen above and **select In Alignment** to activate a pop out menu and select left / right /centre and the display will change accordingly.



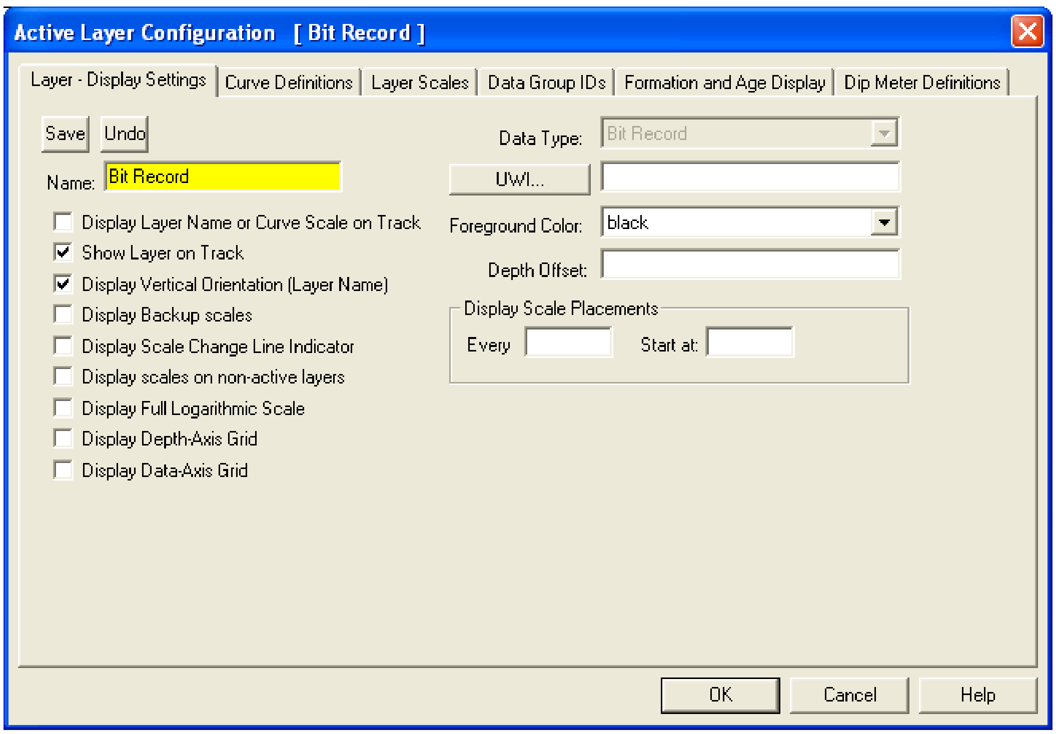
Out Alignment Option – **Right click** on the **Bit Record layer** at the **Out depth** of the bit record to change to activate the pop out menu seen above and **select Out Alignment** to activate a pop out menu and select left / right /centre and the display will change accordingly.



Moving the Bit Record Text Independently without the Right Click Options

1. **Double Click** on the **Bit Record track / layer** to activate the **Bit Record** data entry window.
2. **Hold the CTRL key down on your keypad** and then move the mouse to the text data you want to move and then **click and drag the information to a new spot** on the layer. If done correctly you will see a box outline move with the mouse and the text will be redrawn when you **let go of the mouse button** and then the CTRL key

<u>Note</u>: Every type of layer in **Power*Log / Core & Curve** has a **Data Type** classification. The default settings for the **Bit Record Data** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Bit Record Data** layer is active.



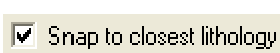
Carbonate Texture Layer

This layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Carbonate Textures for any given Interpreted Lithology (Rock) Interval.

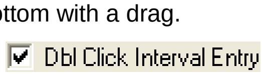
Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

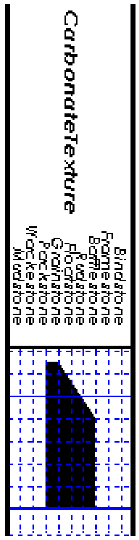
Snap to Closest Lithology 

: When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

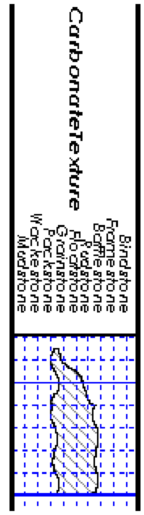
Double Click Interval Entry 

: When checked will allow the user to enter a Carbonate Texture over an entire interval with a double click on the left mouse button.

Soft Edges ☑ Soft Edges: When checked will round off the Carbonate Textures and will present the Carbonate Texture edges with sine wave lines instead of strain lines.



Carbonate Texture No Pattern Hard edges

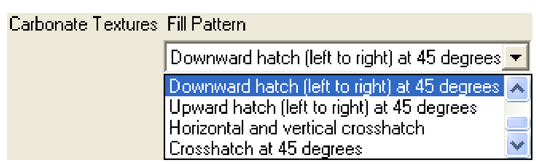


Carbonate Texture Pattern Soft edges

Note: If the Grain Size track contains two headings that overlap, **click** on **Layer Configuration** under the **Options** menu selection and **uncheck** the ☑ Display Layer Name or Curve Scale on Track check box ☐. Then **click** on the OK **button**.

How to Change the Carbonate Texture Pattern from a Solid Color to a Hatching Pattern on your log.

This can only be represented with the Lithology Profile deactivated Lithology Profile ☐ in the System Options Display Tab dialogue window. This will also change all the carbonate texture and matrix layers on all logs.

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then **select** the **Carbonate Texture pattern**  from the **Fill pattern** list drop box.
4. Select the Foreground Color (Line Color) from the Pattern Color: ... selector ... button.
5. **Click** on the OK **button** after you have changed your selection.
6. You may also have to change the background color of the Carbonate Texture as well. To do this **click** on the **Carbonate Texture layer**.
7. **Click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.
8. **Click** on the Foreground Color: black **drop box** and **select** (in this case a background color) for your grain size**.**

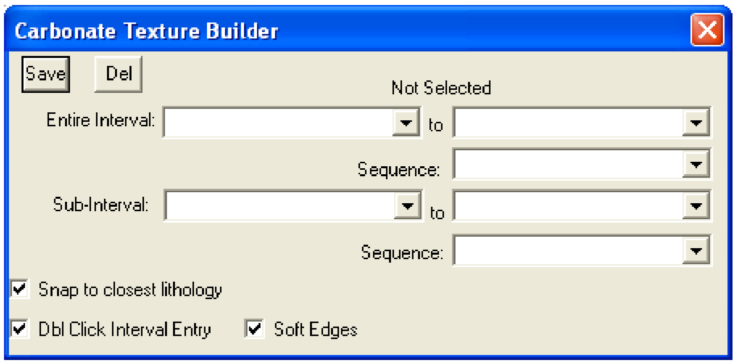
9. **Click** on the 

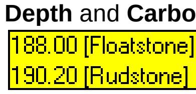
button.

Note: All description categories, such as **Carbonate Texture**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Carbonate Texture**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

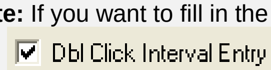
Adding an Entire Interval

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.



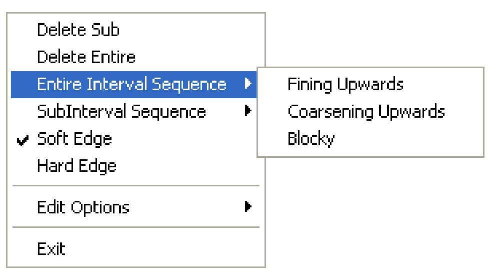
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture**, e.g. **188.00 [floatstone]** to **190.20 [rudstone]**, on the **Carbonate Texture** track. 

3. **Release** the mouse button and the entire **Carbonate Texture** interval will be drawn accordingly.

Note: If you want to fill in the entire interval with only one Carbonate Texture and not a range of textures and you have the 

selected in the builder simply double click in the interval the carbonate texture you wish to enter and it will fill in the entire interval with your selection.

4. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.

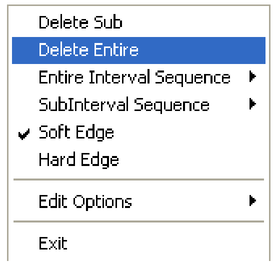


5. Repeat **Steps 2** - **4** to add more **Carbonate Textures**.
6. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Note: If you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

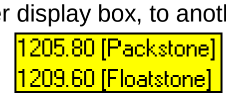
Deleting an Entire Interval

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.
2. On the **Carbonate Texture** layer, **right click** anywhere <u>within</u> the interval that you wish to delete to activate the pop-up menu.



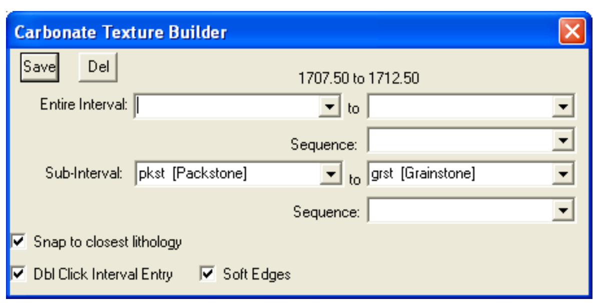
3. **Click** on **Delete Entire** and the **Carbonate Texture** will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Adding a Sub-Interval

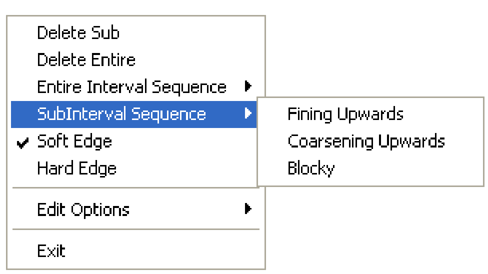
1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture** within an entire **Carbonate Texture** interval. 

<u>Note</u>: You can drag the pointer to the left or right of the **Grain Size** track to more accurately describe your grain size range.

3. **Release the mouse button** and the **Carbonate Texture** sub-interval will be drawn.



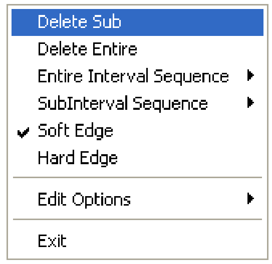
4. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **SubInterval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



5. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Deleting a Sub-Interval

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.
2. On the **Carbonate Texture** layer, **right click** anywhere <u>within</u> the sub-interval that you wish to delete to activate the pop-up menu.

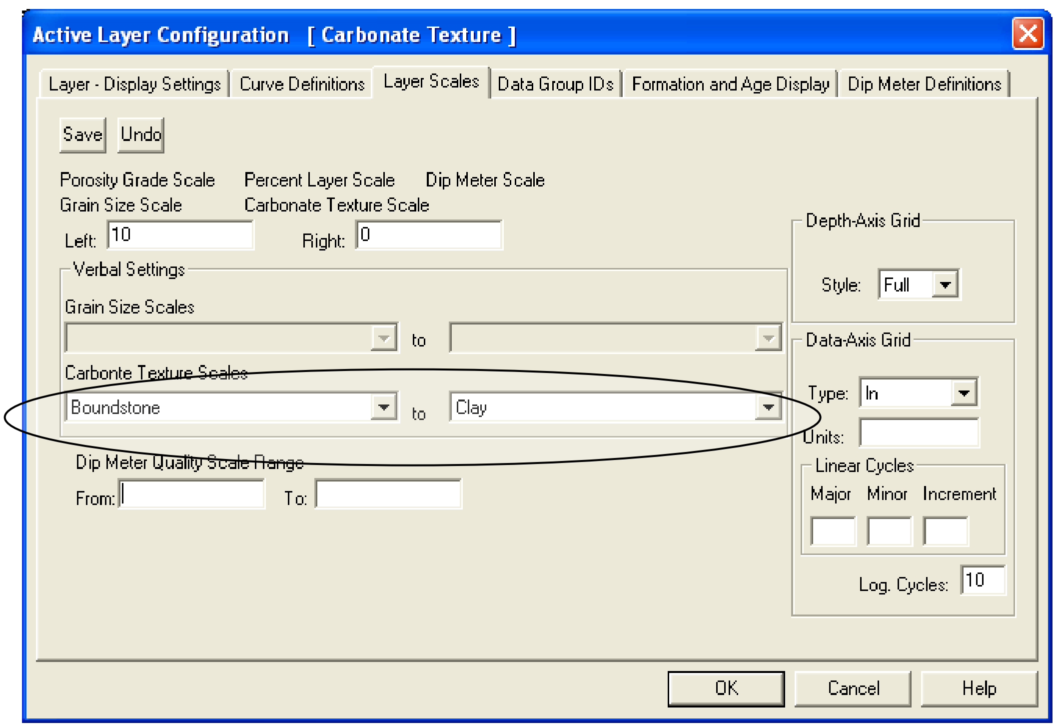


3. **Click** on **Delete Sub** and the **Carbonate Texture** sub-interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Changing the Carbonate Texture Scale

Carbonate Texture scales can be changed through the Layer Configuration window.

1. **Click** on the  **Layer Configuration button** on the **Toolbar**, when the **Carbonate Texture or Carbonate Texture Matrix** layer is active. This will activate the **Layer Configuration** window tab dialogue window
2. **Click** on the **Layer Scales** tab shown below.

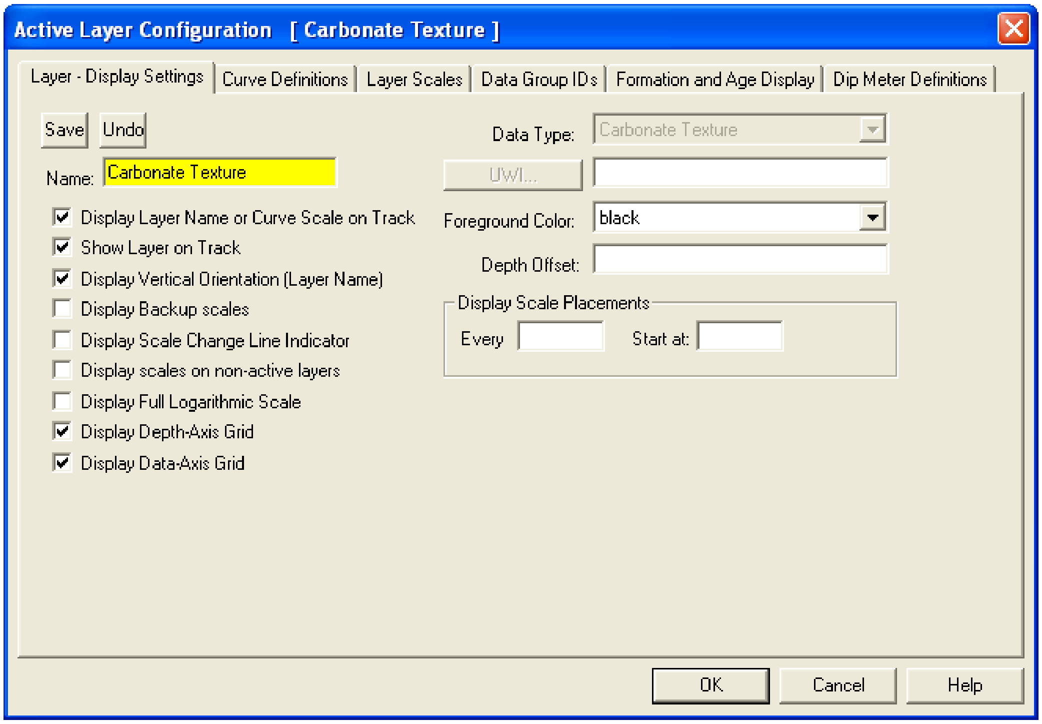


3. **Select** the left and right carbonate texture scales from the Carbonate Texture Scale drop boxes.
4. **Click** on the 

button and **select** 

from the **System Message** window to exit the Layer Configuration window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Carbonate Texture** layer.



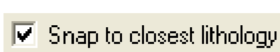
Carbonate Texture Matrix Layer

This layer allows the user to log two carbonate textures (bimodal carbonate texture) at the same depth. The layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Carbonate Textures for any given Interpreted Lithology (Rock) Interval.

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology 

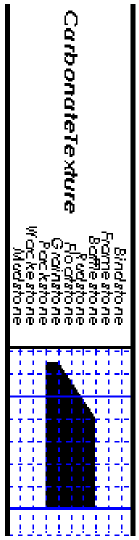
: When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

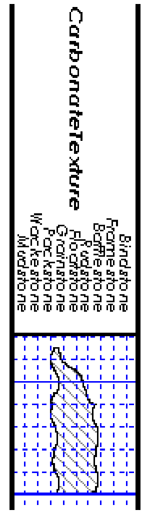
Double Click Interval Entry 

: When checked will allow the user to enter a Carbonate Texture over an entire interval with a double click on the left mouse button.

Soft Edges 

: When checked will round off the Carbonate Textures and will present the Carbonate Texture edges with sine wave lines instead of strain lines.





Carbonate Texture No Pattern Hard edges **Carbonate Texture Pattern Soft edges**

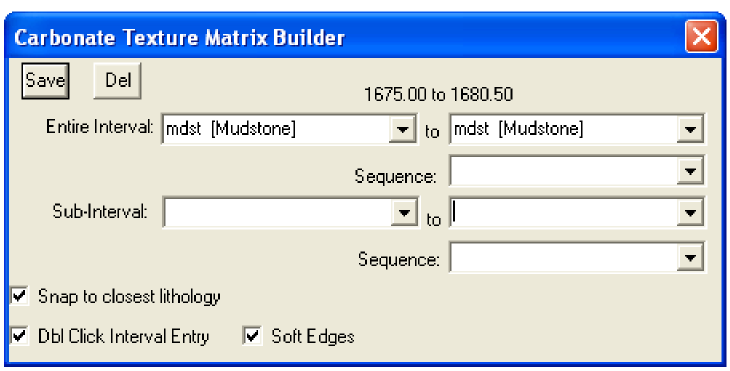
If the user has the Carbonate Texture Matrix layer added to the Carbonate Texture track, the user should verify that the Lithology Profile ☐ check box is not activated. **Click** on **System Options (Display Tab)**, under the **Options** menu selection, and then **uncheck** the Lithology Profile ☐ check box. Then **click** on the Save **button**.

Note: If the Carbonate Texture track contains two headings that overlap, **click** on the **Edit** pull down menu, **select Layer Configuration** and **uncheck** the ☐ Display Layer Name or Curve Scale on Track. Then **click** on the Save **button**.

Adding an Entire Interval

Note: All description categories, such as **Carbonate Texture Matrix**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Carbonate Texture Matrix**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.

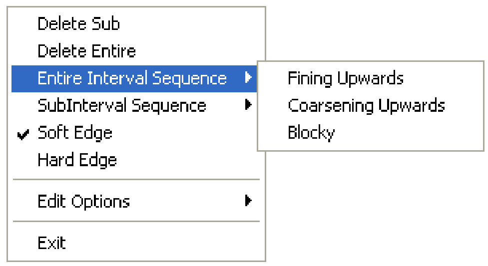


3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture**, e.g. **1204.00 [floatstone]** to **1209.60 [rudstone]**, on the **Carbonate Texture** track. 1204.00 [Floatstone] 1209.60 [Rudstone]

4. **Release** the mouse button and the entire **Carbonate Texture Matrix** interval will be drawn accordingly.

> **Note:** If you want to fill in the entire interval with only one Carbonate Texture and not a range of textures and you have the ☑ Dbl Click Interval Entry selected in the builder simply double click in the interval the carbonate texture you wish to enter and it will fill in the entire interval with your selection.

5. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The carbonate texture matrix appearance will be redrawn to reflect the newly selected criteria.



6. Repeat **Steps 2** - **4** to add more **Carbonate Texture Matrixes**.

> **<u>Note</u>**: The intervals that belong to the active layer are purple. The non active layers data are black, e.g. the intervals within the Carbonate Texture Matrix layer are purple while the intervals within the Carbonate Texture layer are black.
>
> Also, if you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

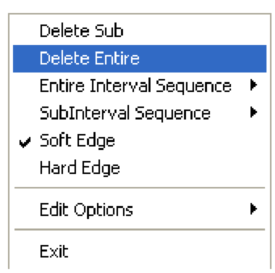
7. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Deleting an Entire Interval

1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Carbonate Texture Matrix** layer from the **Layer Selection List** field

2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.

3. On the **Carbonate Texture Matrix** layer, **right click** anywhere <u>within</u> the interval that you wish to delete to activate the pop-up menu.



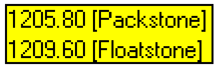
4. **Click** on **Delete Entire** and the **Carbonate Texture Matrix** will be deleted accordingly.

5. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Matrix Builder** window.

Adding a Sub-Interval

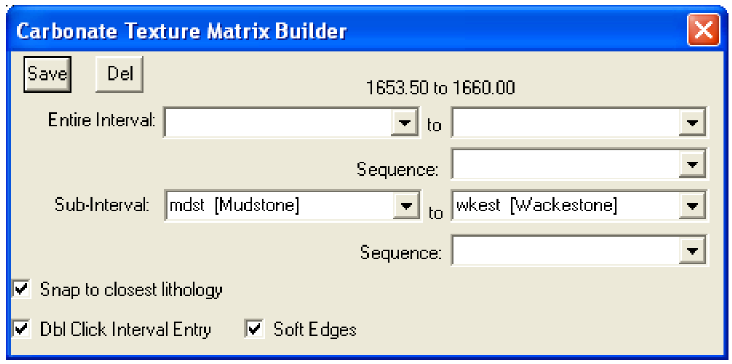
1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Carbonate Texture Matrix** layer from the **Layer Selection List** field

2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.

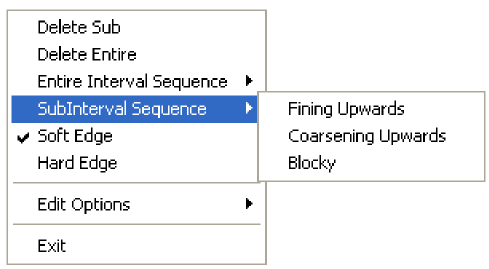
3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture** within an entire **Carbonate Texture Matrix** interval. 

<u>Note</u>: You can drag the pointer to the left or right of the **Carbonate Texture** track to more accurately describe your carbonate texture range.

4. **Release the mouse button** and the **Carbonate Texture Matrix** sub-interval will be drawn.



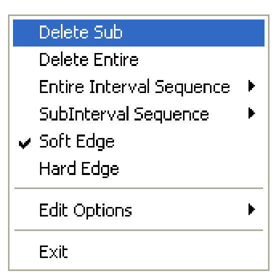
5. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **Subinterval Sequence** selection and select one of the appropriate selections. The carbonate texture appearance will be redrawn to reflect the newly selected criteria.



6. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Deleting a Sub-Interval

1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Carbonate Texture Matrix** layer from the **Layer Selection List** field.
2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.
3. On the **Carbonate Texture Matrix** layer, **right click** anywhere <u>within</u> the sub-interval that you wish to delete to activate the pop-up menu shown below:

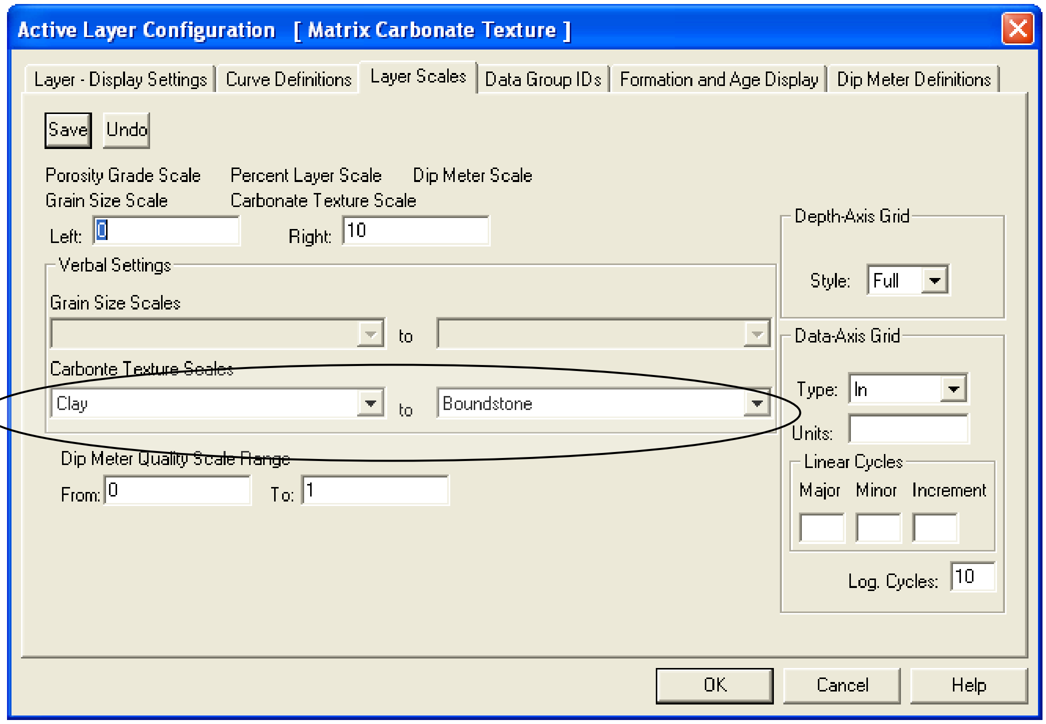


4. **Click** on **Delete Sub** and the **Carbonate Texture Matrix** sub-interval will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Matrix Builder** window.

Changing the Carbonate Texture Matrix Scale

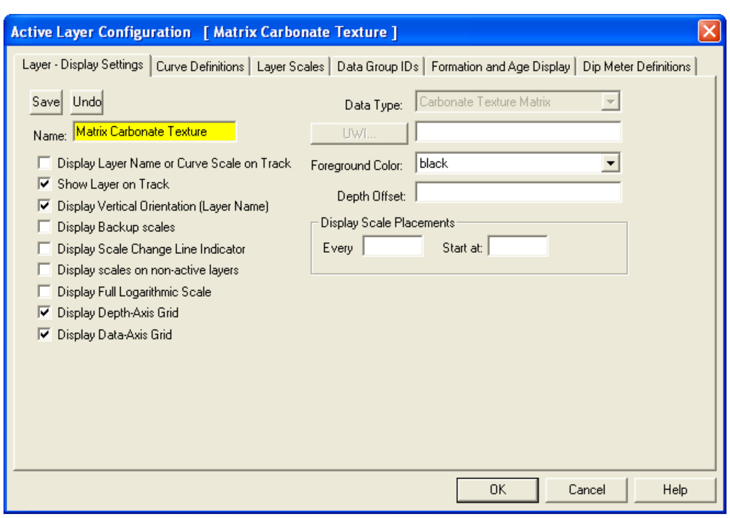
Carbonate Texture scales can be changed through the Layer Configuration window.

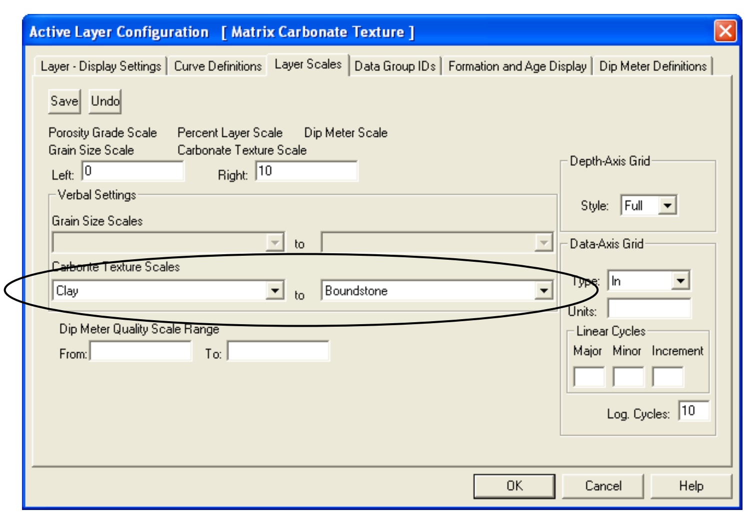
1. **Click** on the **Layer Configuration button** on the **Toolbar**, when the **Carbonate Texture or Carbonate Texture Matrix** layer is active. This will activate the **Layer Configuration** window tab dialogue window
2. **Click** on the **Layer Scales** tab shown below.



3. **Select** the left and right carbonate texture scales from the Carbonate Texture Scale drop boxes.
4. **Click** on the OK **button** and **select** Yes from the **System Message** window to exit the Layer Configuration window.

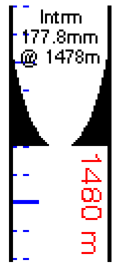
> **Note**: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Carbonate Texture** layer.





Casing Layer

This layer allows you to display some of the Casing String information on the log.

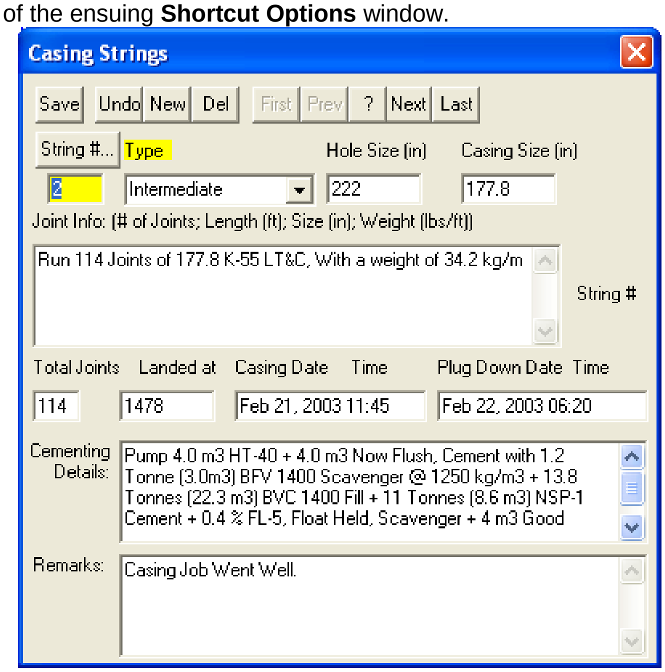


Adding Casing Data

1. **Double click** on the Casing layer to activate the Casing Strings window shown below. The user can also **click** on **Casing Strings**, under the **Reports** menu selection.

2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.

3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

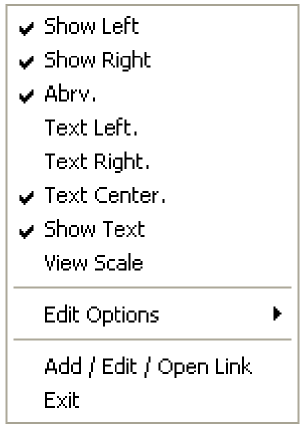


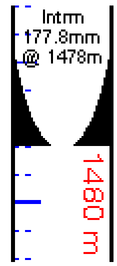
Note: The information entered into the String Type, Casing Size and the depth landed information is the data represented in this track / layer.

To Change the Display

5. **Double Click** on the **Casing track / layer** just above the data to activate the Casing Strings data entry window. If the record is not showing then you want to **click** on the String #... **button** to activate the list of casing strings and select the casing string you want to make changes to.

6. **Right click above the string landed depth** on the **Casing track / layer** to activate the pop out menu. And click on one of the selections.





The example above has the Short form and casing shoe indicators at 100%. Along with a Depth layer

Show Left Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select Show left** to toggle between showing the left casing shoe symbol on or off.

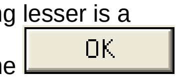
Show Right Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select Show Right** to toggle between showing the left casing shoe symbol on or off.

Abrv Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select Abrv** to toggle between long and short forms of the Casing Type.

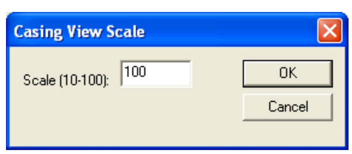
Text Left Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select Text Left** to place the text on the left of the layer.

Text Right Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select Text Right** to place the text on the right of the layer.

Text Centre Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select Text Centre** to place the text on the centre of the layer.

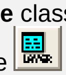
View Scale Option – **Right click** on the layer above the string landed depth with the builder open to activate the pop out menu seen above and **select View Scale** to activate the Casing View Scale window. The width of the track determines the size of the casing shoe symbols and to change the view scales from 100 to something lesser is a necessity most of the time. The user must **Type** in a new scale in the scale field and then **click** on the 

button.

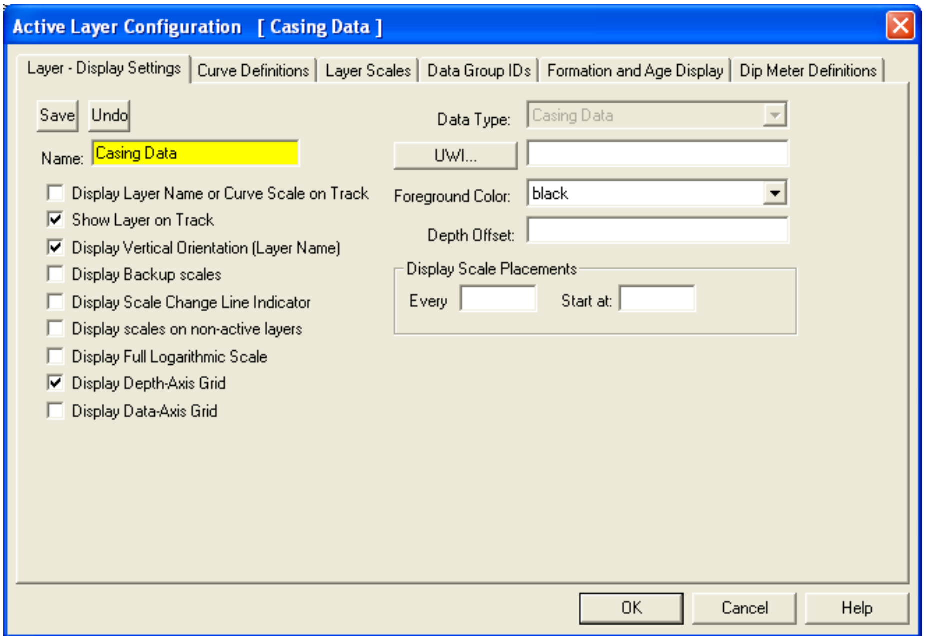


Moving the Casing Text Independently without the Right Click Options

1. **Double Click** on the **Casing track / layer** to activate the Casing Strings data entry window.
2. **Hold the CTRL key down on your keypad** and then move the mouse to the text data you want to move and then **click and drag the information to a new spot** on the layer. If done correctly you will see a box outline move with the mouse and the text will be redrawn when you **let go of the mouse button** and then the CTRL key

__Note:__ Every type of layer in **Power*Log / Core & Curve** has a **Data Type** classification. The default settings for the **Casing Data** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Casing Data** layer is active.

The only thing that can be modified is the Casing shoe symbol color which is handled by the foreground color on the Layer Display Setting tab.



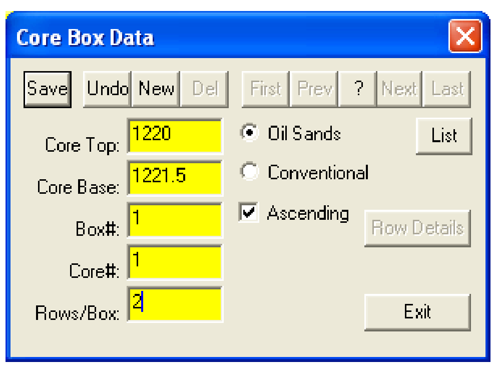
5. **Click** on the Save **button** to Exit and Save the Layer configuration settings.

Core Box Data Layer

This layer displays the Core Box data with the Core Number, Box Number, Top and Base Depth as well as the Rows per box. This is graphically displayed on a layer if it is on your Core log. There are two methods of entry that we keep track of the box and core # data for you so that you will only have to enter the base depths for ascending data entry. Conventional cores will augment the boxes to infinity while the Oil Sands method will change the Core # and Box number after every second box.

How to Enter Core Box Data.

1. **Double Click** on the **Core Box Layer** to activate the Core Box Data Entry Window. If the Core Box data window has data filled in **Click** on the New **button or press ALT-N** and then fill in a new record.



2. **Type** in the **Top Depth, Base Depth, Box #, Core # and Rows/Box fields**. The user can use the **TAB key** on the keypad to advance through the data entry fields and **Shift Key and TAB key** simultaneously to go backwards through the data entry fields.

3. **Click** on the Save **Button** to save the record. Then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

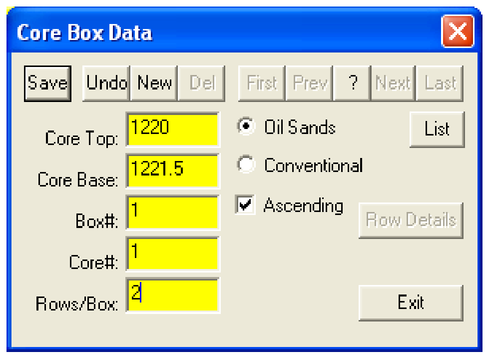
The Ascending check box when activated will advance the Top Depth with the Base depth value as well as retain and increment the box number and related fields. This will only be implemented when the record is saved and the Start New Record option is chosen. If the Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

4. **Repeat** steps **2-3** for more entries.

5. **Click** on the Exit **Button** to close the data entry window or click on the in the upper left corner.

Editing an Core Box Data

1. **Double Click** on the **Core Box Data** layer within box interval that you wish Edit to activate the data entry window with record that you wish to edit.



2. Or, **click twice** on the ? **Query button**. This will refresh the window with all the records starting with the first one entered. Then, use the database navigational tools to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.

3. Once the selected interval is displayed in the **Core Box Data** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting an Core Box Data

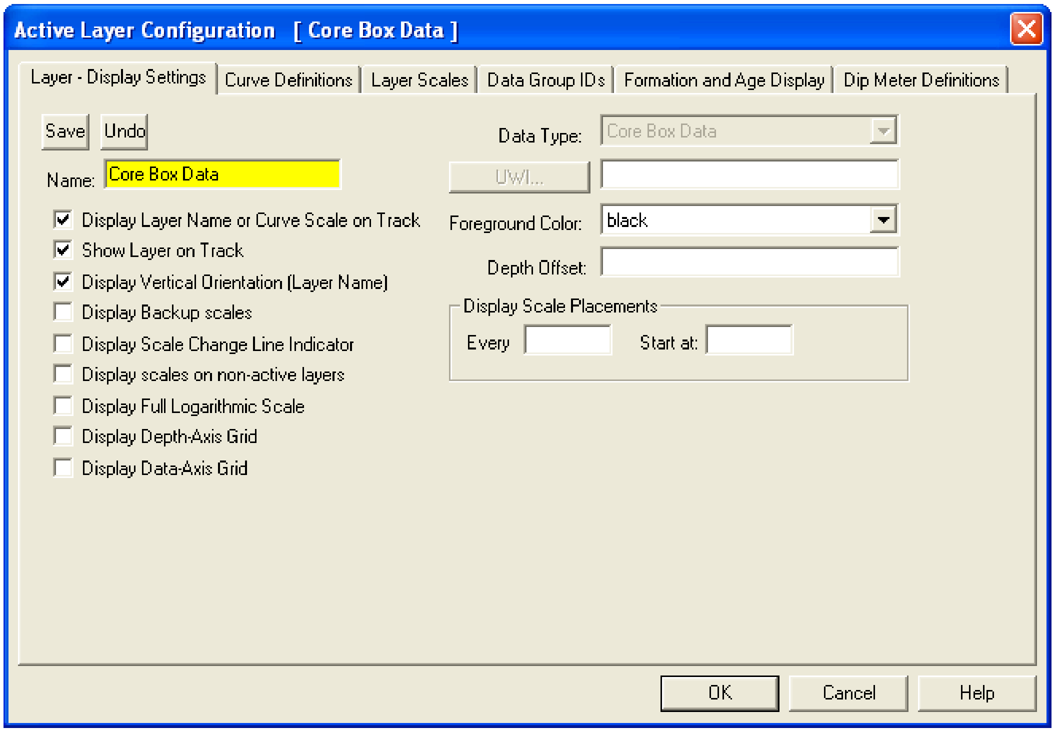
1. **Double Click** on the **Core Box Data** layer within box interval that you wish Edit to activate the data entry window with record that you wish to edit.

2. Once the selected record is displayed in the **Core Box Data** window, **click** on the Del **Delete button**.

3. Or, **click twice** on the ? **Query button.** This will refresh the window with all the records starting with the first one entered. Then, use the database navigational tools to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Core Box Data** window. Then, **click** on the Del **Delete button**.

4. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Generic Category** are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Core Box Data** layer is active.



Core Plug Data Display Layers

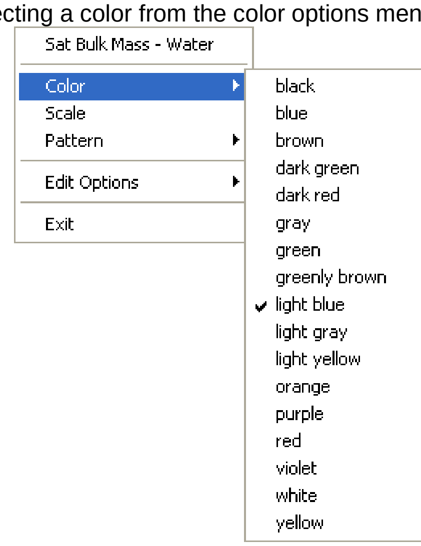
These layers display the different data types that are in the Core Plug Report. These values can be entered manually into the report window or can be imported through the Core Plug import utility.

Bulk Density Layer	**Saturated Bulk Mass – Water**
Grain Density	**Saturated Bulk Mass – Oil**
K90	**Saturated Bulk Mass – Solids**
KMax	**Saturated Bulk Mass – Totals**
KV	**Saturated Grain Mass - Oil**
KAir	**Saturated Grain Mass – Water**
Porosity Calculated	**Saturated Pore Volume – Oil**
Porosity Helium	**Saturated Pore Volume – Water**
Porosity Measured	**Saturated Pore Volume (Fraction) – Oil**
Core Sample Code	**Saturated Pore Volume (Fraction) – Water**
Saturated Bulk Mass – Fluids	**Saturated Bulk Mass – Water**

Core Plug Data Display Options

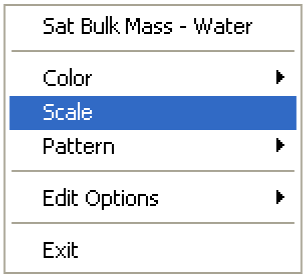
Color

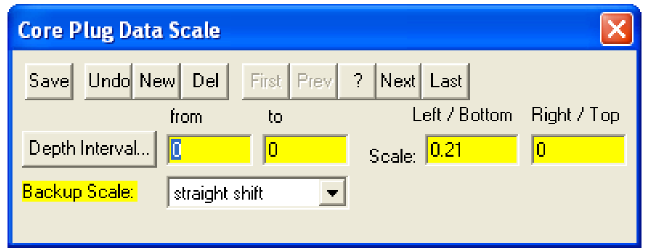
1. The color of the histograms or data points can be changed by **right clicking** on the **Core Data Display layer** and selecting the color option and selecting a color from the color options menu.



Scale

1. The scale of the display can be changed by **right clicking** on the **layer** and selecting the scale option to activate the scale window.

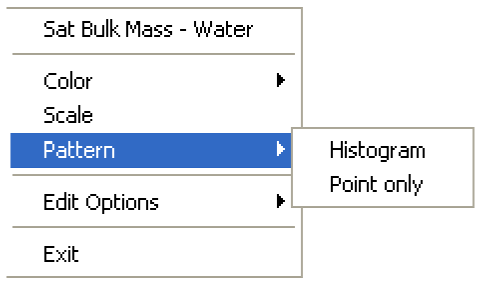




2. Then **type** in a new left and or right scale or add a new scale interval. This is typical to any curve scale and then **click** on the Save **button**.

Pattern

1. The pattern of the graphical can be switched from histograms to just data points by **right clicking** on the **Core Data Display layer** and **selecting** the **Pattern option** and selecting a color from the color options menu.



2. **Select** the **pattern type** you wish to display the data.

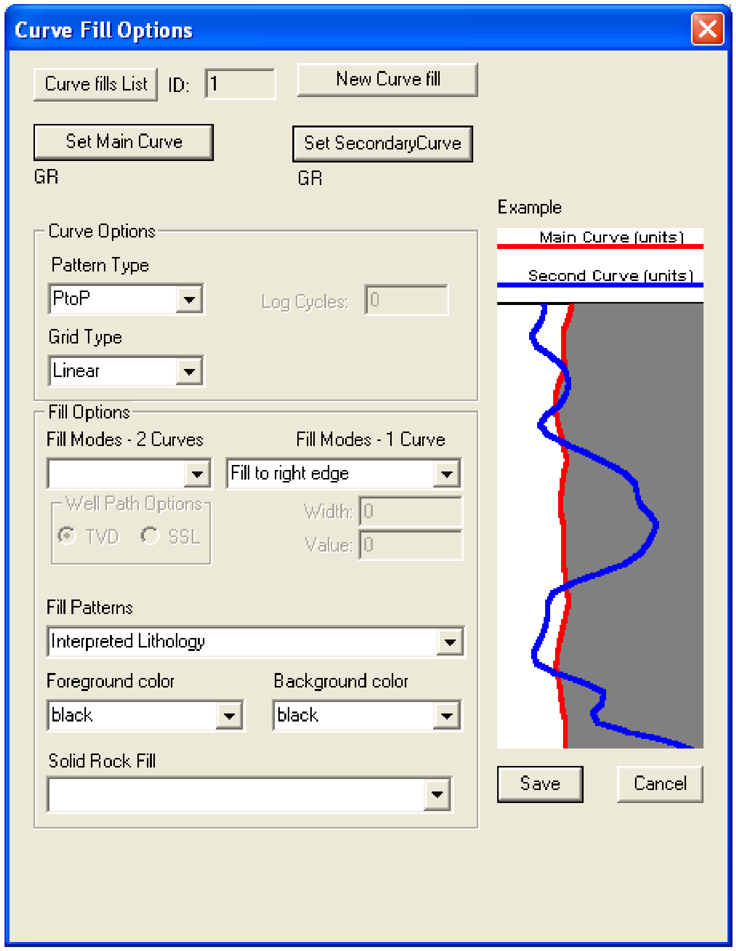
Curve Fill Layer

In **Power*Suite**, this layer type allows you to create a visual effect with curve data. This layer will allow you to fill an area between 1 curve and a track edge, fill to a value, fill from a value or surround a curve (eg. 1/2" either side of a curve). You also have the ability to set 2 curves and to fill between two curves, fill when one curve is greater or when one curve is lesser than the other curve. The curve fill options can be a solid color, a hatched color, a single lithology or the interpretive lithology.

How to Set (1) One Curve Fill options

Once the layer has been added to your log the user can now utilize the curve fill layer. To set the Curve Fill Options the user must first make the Curve Fill Layer active. To do so the user must **click** on a **track** containing the Curve Fill layer and then selecting the given **Curve Fill** layer from the **Layer Selection List** field at the far left of the **Selection Bar**.

1. **Double click** anywhere within the **Curve Fill or** layer to activate the **Curve Fill Options** window. An example is shown below.
2. **Click** on the Set Main Curve **button**. This will activate a list of curves associated with this well.
3. **Click** on the **Curve Name** you want to use so that it gets listed in the upper portion of the window and then **click** on the Select **button** or **double click** on the **Curve Name** you want to use. You will now view the curve name below the Set Main Curve **button**.



Curve Options Portion of the Window. This information is pertaining to the Main Curve and its Curve attributes.

1. **Click** on the **Pattern Type** down arrow and **select** the correct **curve pattern** for the main curve. The default is PtoP (Point to Point).

2. **Click** on the **Grid Type** down arrow and **select** the correct **curve grid type** for the main curve. The default is Linear.

3. **If the Grid Type** for the Main Curve is **Logarithmic** then the user must type in the Log Cycles field with the number of Log Cycles that is being used by the Main Curve.

Fill Options Portion of the Window (One Curve)

1. **Click** on the **Fill Modes – 1 Curve** down arrow and **select** the correct **Fill Type** for the main curve. As you select the options from the drop down menu an example of the Fill Type will be shown to you in the example on the right of the window.

2. **If Surround Curve** has been selected as the fill type then the **Width field** is activated and the user must **Type in a width** indicating how wide to you want the fill to be surrounding the main curve. Example: If (1) one is type into the width field then the fill will be ½" either side of the main curve. (This could be an excellent way to represent the interpretive lithology around the well path curve in Power*Curve.)

3. **If Fill to a Value, or From a Value** has been selected as the fill type then the **Value field** is activated and the user must **Type in a Value** indicating what value the curve fill area will fill between the curve and the value.

4. **Click** on the **Fill Patterns** down arrow and **select** the desired **Fill Pattern** for the main curve.

Your Options are **solid foreground** which you could then utilize a Solid Rock Fill or a Foreground Color.

A variety of **hatched (lines)** which would then utilize both foreground and background colors and the user would have to have different colors to differentiate the line and background colors.

Interpretive Lithology would utilize the lithology drawn in the Interpretive Lithology Layer of your log. This fill would not include the accessories and would only fill where the Interpretive Lithology has been entered.

1. **If Solid Foreground** has been selected as the fill pattern then the user must **Select the Foreground Color** from the drop box **or Select a Rock Type** from the Solid Rock Type drop box.
2. **If Hatched Lines** (of any kind) has been selected as the fill pattern then the user must **Select the Foreground Color** from the **Foreground color** drop box **and** the **Select the Background Color** from its drop box.
3. **If Interpretive Lithology** is selected then nothing else has to be done.
4. **Click** on the Save **button** The **Curve Fill Options** window will close and the changes you have made will be shown on the layer.

How to Set (2) Two Curve Fill options

Once the layer has been added to your log the user can now utilize the curve fill layer.

To set the Curve Fill Options the user must first make the Curve Fill Layer active. To do so the user must **click** on a **track** containing the Curve Fill layer and then selecting the given **Curve Fill** layer from the **Layer Selection List** field at the far left of the **Selection Bar**.

1. **Double click** anywhere within the **Curve Fill** or layer to activate the **Curve Fill Options** window. An example is shown on the next page.
2. **Click** on the Set Main Curve **button**. This will activate a list of curves associated with this well.
3. **Click** on the **Curve Name** you want to use so that it gets listed in the upper portion of the window and then **click** on the Select **button** or **double click** on the **Curve Name** you want to use. You will now view the curve name below the Set Main Curve **button**.
4. **Click** on the Set SecondaryCurve **button**. This will activate a list of curves associated with this well.
5. **Click** on the **Curve Name** you want to use so that it gets listed in the upper portion of the window and then **click** on the Select **button** or **double click** on the **Curve Name** you want to use. You will now view the curve name below the Set SecondaryCurve **button**.

Curve Options portion of the Window. This information is pertaining to the Main Curve and its Curve attributes.

1. **Click** on the **Pattern Type** down arrow and **select** the correct **curve pattern** for the main curve. The default is PtoP (Point to Point).
2. **Click** on the **Grid Type** down arrow and **select** the correct **curve grid type** for the main curve. The default is Linear.

If the Grid Type for the Main Curve is **Logarithmic** then the user must type in the Log Cycles field with the number of Log Cycles that is being used by the Main Curve.

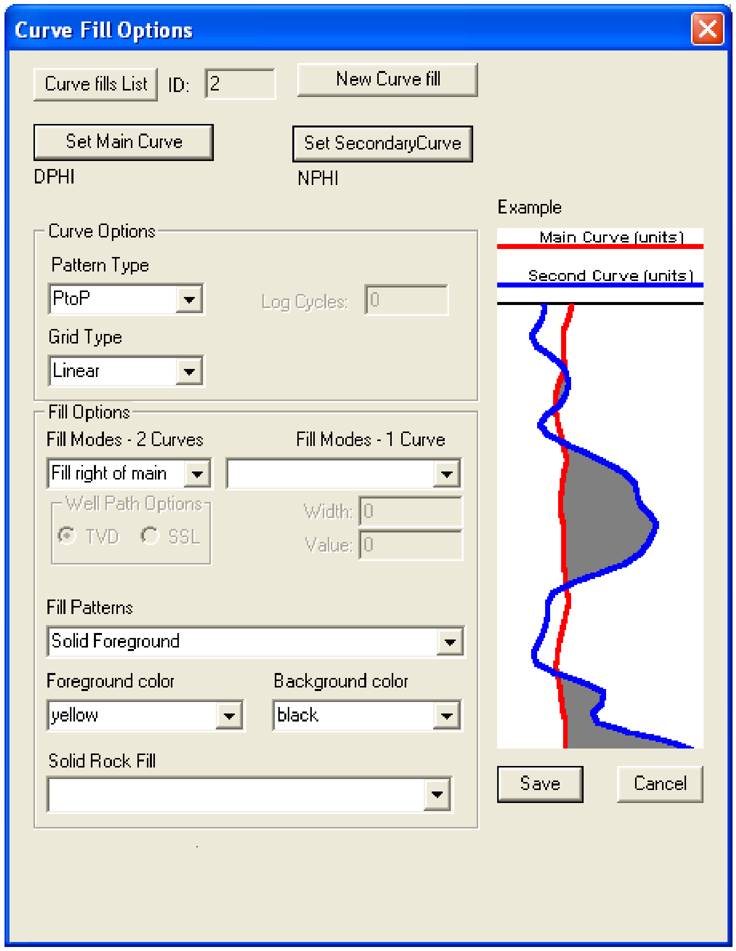
Fill Options portion of the Window ([2] Two Curves)

1. **Click** on the **Fill Modes – 2 Curve** down arrow and **select** the correct **Fill Type** for the two curves. As you select the options from the drop down menu an example of the Fill Type will be shown to you in the example on the right of the window.
2. **Click** on the **Fill Patterns** down arrow and **select** the desired **Fill Pattern** for the two curves.

Your Options are **solid foreground** which you could then utilize a Solid Rock Fill or a Foreground Color.

A variety of **hatched (lines)** which would then utilize both foreground and background colors and the user would have to have different colors to differentiate the line and background colors.

Interpretive Lithology would utilize the lithology drawn in the Interpretive Lithology Layer of your log. This fill would not include the accessories and would only fill where the Interpretive Lithology has been entered.



1. **If Solid Foreground** has been selected as the fill pattern then the user must **Select** the **Foreground Color** from the **Foreground Color** drop box **or Select a Rock Type** from the **Solid Rock Type** drop box.
2. **If Hatched Lines** (of any kind) has been selected as the fill pattern then the user must **Select** the **Foreground Color** from the drop box **and Select** the **Background Color** from its drop box.
3. **If Interpretive Lithology** is selected then nothing else has to be done.
4. **Click** on the Save **button.** The **Curve Fill Options** window will close and the changes you have made will be shown on the layer.

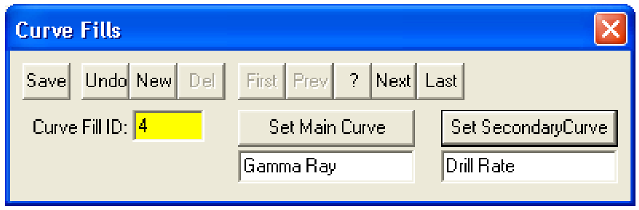
How to Add a New Curve Fill ID

Once the layer has been added to your log the user can now utilize the curve fill layer.

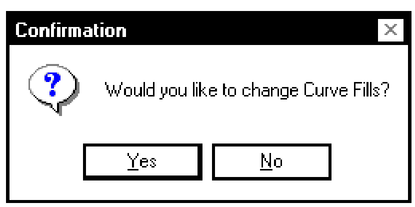
To set the Curve Fill Options the user must first make the Curve Fill Layer active. To do so the user must **click** on a **track** containing the Curve Fill layer and then selecting the given **Curve Fill** layer from the **Layer Selection List** field at the far left of the **Selection Bar**.

1. **Double click** anywhere within the **Curve Fill or** layer to activate the **Curve Fill Options** window. An example is shown on the next page.

2. **Click** on the New Curve fill **button**. This will activate the **Curve Fills** window shown below



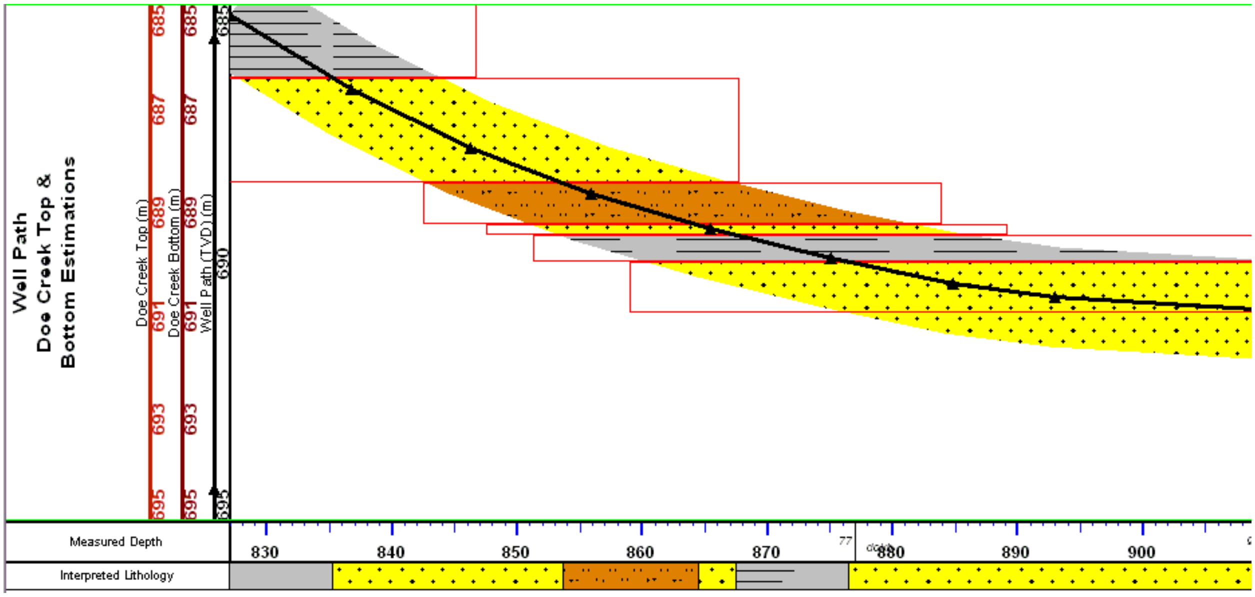
3. **Click** in the **Curve Fill ID field** and **Type** in a New Curve Fill ID Number.
4. **Click** on the Set Main Curve **button**. This will activate a list of curves associated with this well.
5. **Click** on the **Curve Name** you want to use so that it gets listed in the upper portion of the window and then **click** on the Select **button** or **double click** on the **Curve Name** you want to use. You will now view the curve name below the Set Main Curve **button**.
6. If you would like this to be a curve fill between two curves then **click** on the Set SecondaryCurve **button**. This will activate a list of curves associated with this well.
7. **Click** on the **Curve Name** you want to use so that it gets listed in the upper portion of the window and then **click** on the Select **button** or **double click** on the **Curve Name** you want to use. You will now view the curve name below the Set SecondaryCurve **button**.
8. **Click on the** Save **button** This will activate a Systems Message and then **click** on the appropriate button when prompted with the **Shortcut Options** system window. This will then activate another Window Confirming replacing old Curve Fill ID



9. **Click** on the Yes **button**.
10. Proceed with How to Set (1) One or (2) Two Curve Fill Layer Options

Curve Fill Layer (Well Path Option on Single Curve)

In **Power*Suite**, this layer type allows you to create a visual effect with curve data. This layer will allow you to fill an area surrounding the well path curve (e.g. 1/2" either side of a curve). It has been designed to take the interpretive lithology drawn and surround the well path curve in the Horizontal (Power*Curve) application. It will also be beneficial when the correlational module has been perfected. The user now has the ability to manipulate the angle of the bedding contacts and the extend of those beds past the areas previously drawn. An example is shown below.

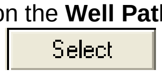


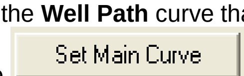
How to Set the Well Path Curve Fill options

You will need the well path curve and the well path curve scale available for the user to be able to fill in the options correctly. The easiest way to populate the well path curve with digits would be by calculating the survey points and updating the well path curve with the digital data. ***Without actual survey data generating the well path curve this layer will not work correctly.***

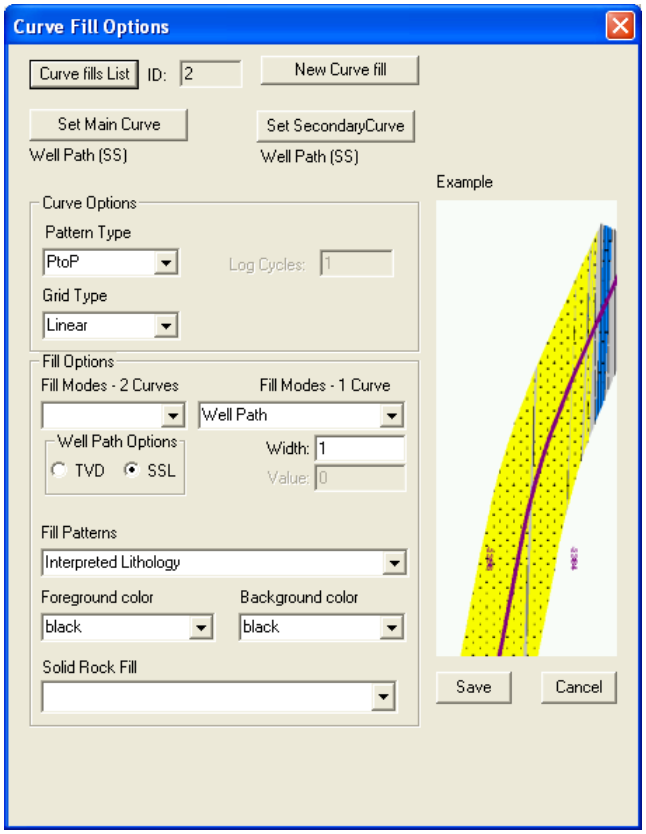
Once the curve fill layer has been added to your log the user can now utilize the curve fill layer. To set the Curve Fill Options the user must first make the Curve Fill Layer active. To do so the user must **click** on a **track** containing the Curve Fill layer and then selecting the given **Curve Fill** layer from the **Layer Selection List** field at the far <u>left</u> of the **Selection Bar**.

1. **Double click** anywhere within the **Curve Fill or** layer to activate the **Curve Fill Options** window.
2. **Click** on the 

button. This will activate a list of curves associated with this well.
3. **Click** on the **Well Path** curve name to use so that it gets listed in the upper portion of the window and then **click** on the 

button or **double click** on the **Well Path** curve that has been generated by the survey data. You will now view the curve name below the 

button.



Curve Options Portion of the Window. This information is pertaining to the Main Curve and its Curve attributes.

4. **Click** on the **Pattern Type** down arrow and **select** the correct **curve pattern** for the main curve. The default is PtoP (Point to Point).

5. **Click** on the **Grid Type** down arrow and **select** the correct **curve grid type** for the main curve. The default is Linear.

Fill Options Portion of the Window (1 Curve)

6. **Click** on the **Fill Modes – 1 Curve** down arrow and **select** the **Well Path** from these options.

7. **Type** in the **Width field** how wide (in inches) you want the fill to be surrounding the well path curve. Example: If (1) is type into the width field then the fill will be ½" either side of the curve.

8. **Select** between the **TVD** and **SSL** scale options. This is applicable to which curve for well path you are filling.

9. **Click** on the **Fill Patterns** down arrow and **select Interpretive Lithology**.

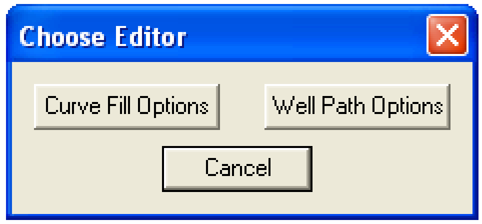
10. **Click** on the Save **button** in the Curve fill Options window**.** The window will close and the changes you have made will be reflected on the layer.

Well Path Curve Fill Layer – Bedding Angle Contacts builder

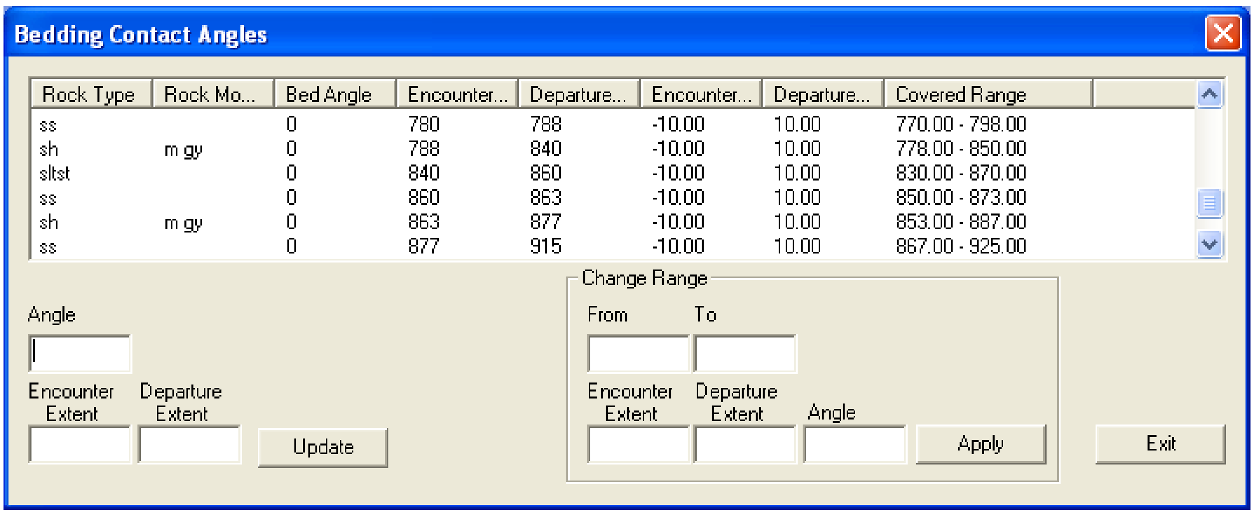
Once the curve fill layer has been customized to be a well path single curve option as described above to get to the builder the user must first make the Curve Fill Layer active. To do so the user must **click** on a **track** containing the Curve Fill layer and then selecting the given **Curve Fill** layer from the **Layer Selection List** field at the far left of the **Selection Bar**.

Single Value Data Entry

1. **Double click** anywhere within the **Curve Fill or** layer to activate the **Choose Editor** window.



2. **Click** on the Well Path Options **button**. This will activate Bedding Angle contact window. This window displays the lithology data that has been entered through the Interpretive Lithology builder with the default setting in this window as 0 degrees bedding angle and a plus minus (departure encounter) of 10 meters.



Mouse Pointer method

3. To modify a single bed the user can either **click on the bed within the layer**. The bed outline will change from red to blue when selected and will also be highlighted with a grey color in the builder.

4. **Hold** the **CTRL Key down** on the keypad and **click on the corner or end boundary of the bed** This will result in an ↗ or ↔ cursor arrow and click and drag it in a certain direction. You will see the outline of the bed follow your mouse. When released the bed will draw an area surrounding the curve within the boundaries defined by the box with the width as specified in the curve fill option window.

Keypad Method

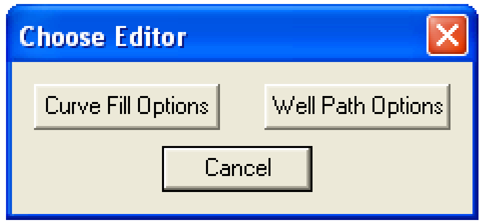
5. To modify a single bed the user can either **click on the bed within the layer or in the builder**. The bed outline will change from red to blue when selected and will also be highlighted with a grey color in the builder.

6. Here the user can change the **type** in a new bedding angle + or – to change the angle of dip as well as the extents with a (–) negative number in the Encounter Extent to further the bed to the left or a (+) positive number in the departure field to further the bed to the right.

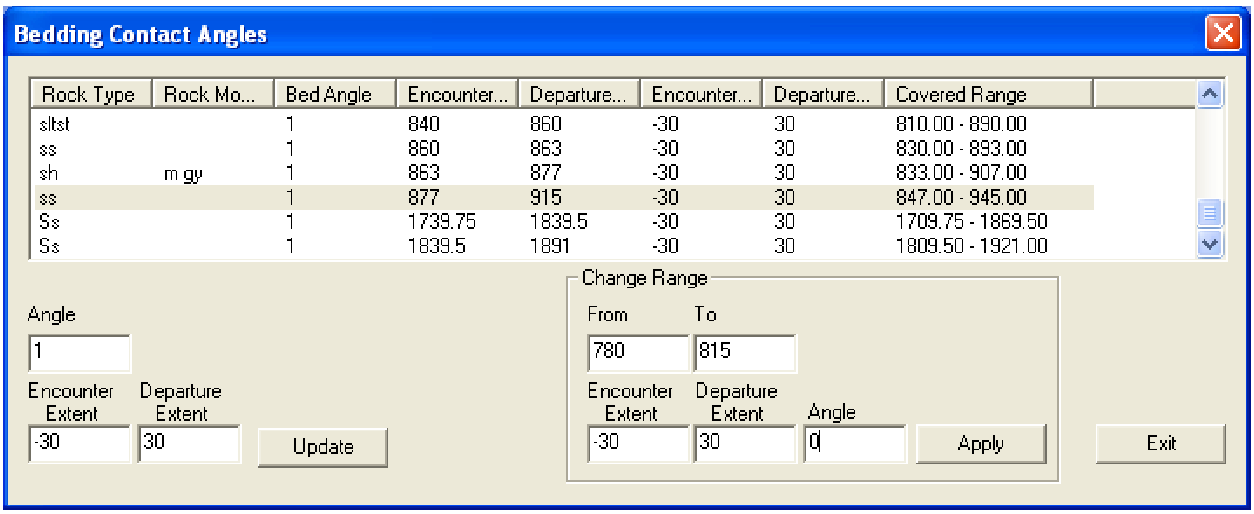
7. **Click** on the Update **button**. The bed outline will be drawn in an area surrounding the curve within the boundaries defined by the data entered in the fields.

Multiple Value Data Entry

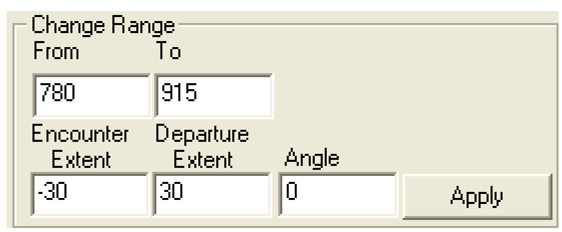
1. **Double click** anywhere within the **Curve Fill or** layer to activate the **Choose Editor** window.



2. **Click** on the Well Path Options **button**. This will activate Bedding Angle contact window. This window displays the lithology data that has been entered through the Interpretive Lithology builder with the default setting in this window as 0 degrees bedding angle and a plus minus (departure encounter) of 10 meters.



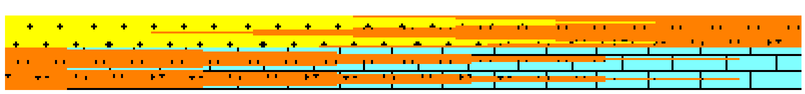
3. To modify multiple beds at once the user must **Type in** the range of the beds as defined in the interpretive lithology builder (this must cover the entire interval of the bed) in the From and To fields that users wish to modify.



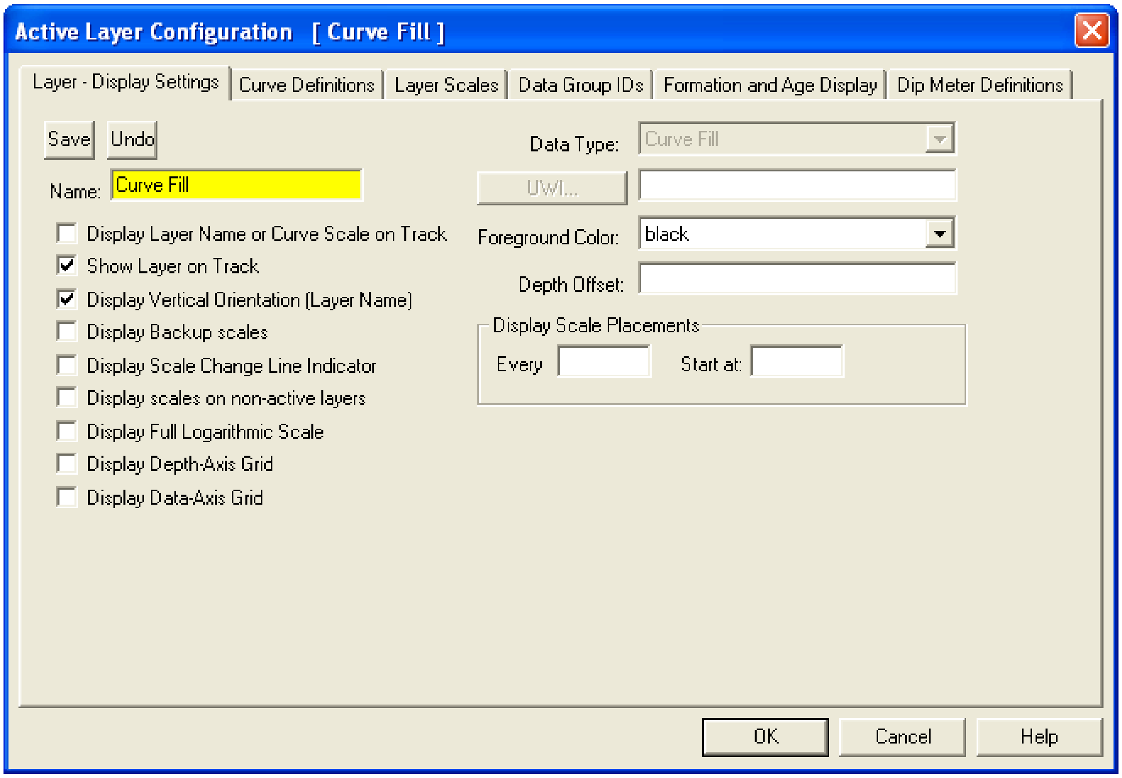
4. The user can change the **type** in a new bedding angle + or – to change the angle of dip as well as the extents with a (–) negative number in the Encounter Extent to further the bed to the left or a (+) positive number in the departure field to further the bed to the right in their appropriate fields.

5. **Click** on the Apply **button**. The beds outlines will be redrawn in an area surrounding the curve within the boundaries defined by the data entered in the fields.

Note. When two beds intersect each other on this layers presentation they will be drawn with an interfingering pattern as shown below.



Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **Curve fill** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the layer is active.

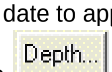


Date Layer / Date Editor

This layer allows the user to enter a date on a layer column of a log. This can be used to identify the date that the well was drilled for a particular section.

Adding a Date

1. **Double click** on the **Date** track to activate the **Drilling Schedule** window shown below:

2. **Click** on the  **button or press ALT-N** to clear the window for the entry of a new record.
3. Type the depth that you want your date to appear at into the **Depth** field. If you wish to edit a depth that has already been entered, **click** on the  **button** to activate the **Drilling Schedule List** window containing a list of **Depths** and their associated **Dates**.
4. Fill in the **Date** field.

<u>Note</u>: The format used in the **Date** field, e.g. MM/DD/YYYY, <u>must</u> conform to the **Date Format** settings in the **System Options** window.

5. Select the **Display Format** from the **Display Format** field drop box and the selected format will be highlighted.
6. **Click** on the  **button or press ALT-S** to save your work and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

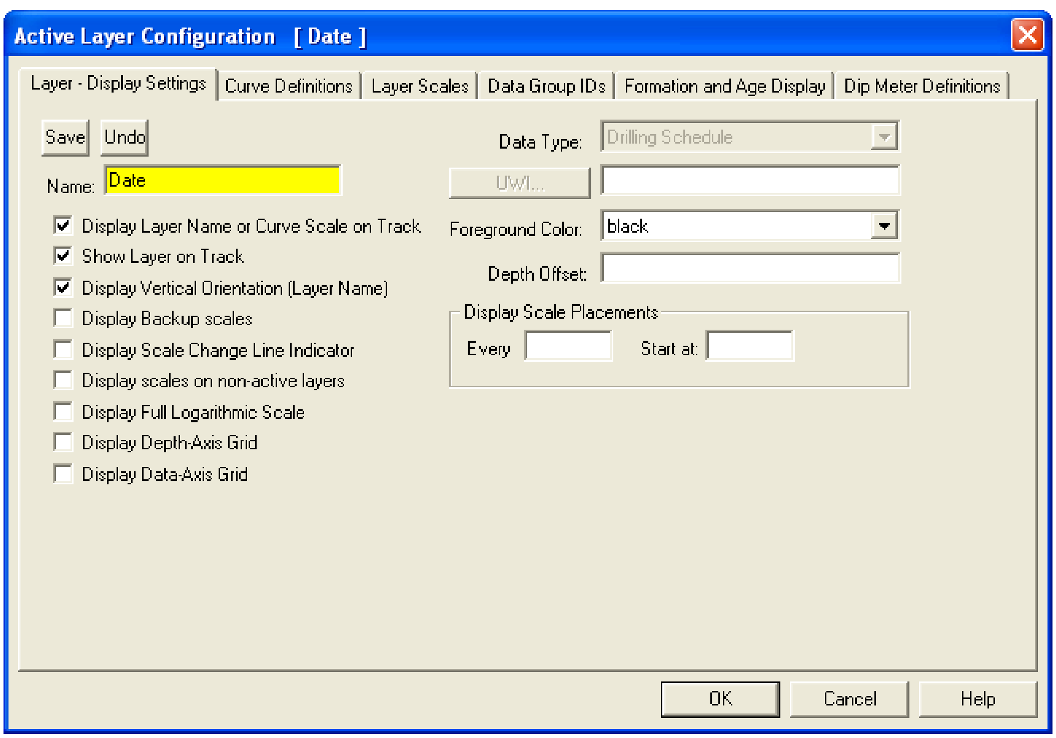
Deleting a Date

1. **Double click** on the **Date** track to activate the **Drilling Schedule** window.
2. **Click** on the **button** to activate the Drilling Schedule List window.
3. **Double click** on the **Date** you wish to delete from the list of depths in the **Drilling Schedule List** window and the **Date** and its associated **Depth** will then be displayed in the **Drilling Schedule** window.
4. **Click** on the **Delete** button and the following system message will appear, "*Would you like to delete the current record?*"
5. **Click** on the **button** and the **Date** you selected will be deleted accordingly.
6. Press the **Esc** key on the keyboard to exit from the **Drilling Schedule** window.

Editing a Date

1. **Double click** on the **Date track** to activate the **Drilling Schedule** window.
2. **Click** on the **button** to activate the **Drilling Schedule List** window.
3. **Double click** on the **Date** you wish to edit from the list of depths in the **Drilling Schedule List** window and the **Date** and its associated **Depth** will then be displayed in the **Drilling Schedule** window.
4. Make any necessary changes to the **Date** or the **Depth** values.
5. **Click** on the **button or press ALT-S** to save your work and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Note: Every layer in **Power*Log / Core & Curve** has a **Data Type** classification. The default settings for the **Date** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Date** layer is active.



Depth Layer

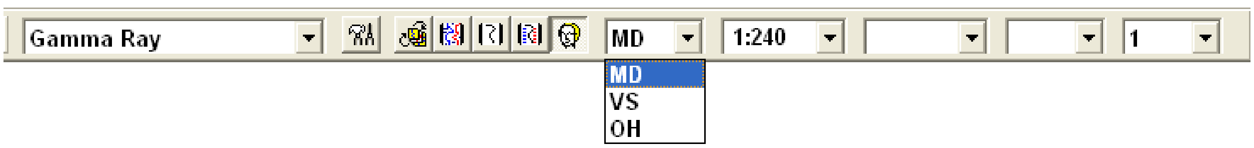
This layer gives the user the ability to display a depth on a track in a log. The user should have at least one Depth layer to identify the depth of a log. The default depth display is Measured Depth (MD). In Power*Log or Power*Core this layer can also represent depth as a Subsea depth value (SSL) or True Vertical Depth value (TVD) is the TVD Module has been purchased. In Power*Curve this layer can also represent depth as a Vertical Section depth value (VS) or Open Hole Depth value (OH) is the VS Module has been purchased.

How to Change the Depth View on a log.

The user must first have surveys entered into the Directional Survey Points report and they must be calculated. For SSL to work you must have entered the KB depth value into the Well Record. For the OH to work you must enter in the Casing information into the Casing report. If this information has not been entered or the modules have not been purchased nothing will work correctly.

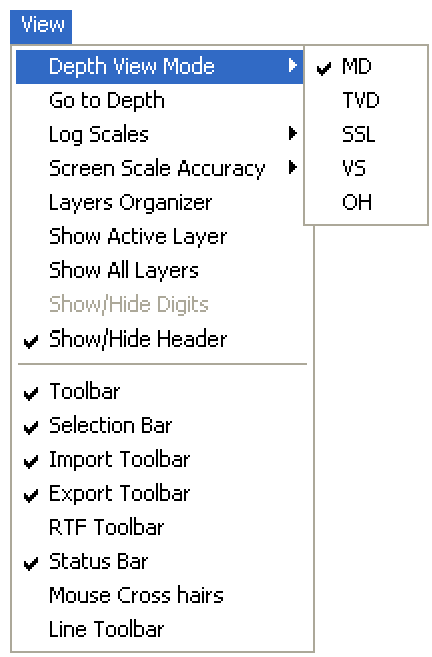
Power*Log or Power*Core Selection Bar

Power*Curve Selection Bar



1. **Click** on the **down arrow** beside the **Depth View (MD) and Select** a different view mode. If the MD is not grayed out you will get **TVD** (true vertical depth) or **SSL** (sub sea level) as a choice in Power*Log or Power*Core. In Power*Curve you will get **VS** (vertical section depth) or **OH** (open hole) as a choice.

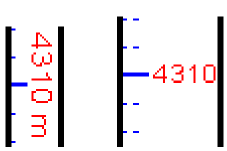
2. **or Click** on **Depth View Mode**, under the **View** menu selection to activate the pop out menu and then **click** on the desired depth view to display the active log in **MD**, **TVD or SSL** for Power*Log and Power*Core. In Power*Curve you will have the option to select from the desired depth view to display the active log in **MD, VS or OH.**

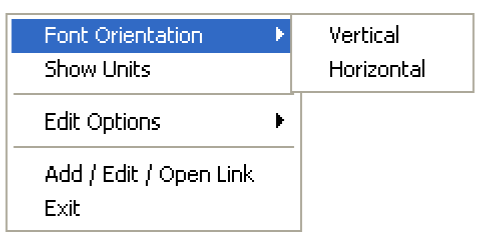


This will change the logs screen presentation. You will notice that the depth layer shows the depth with either an “m or ft” followed by “(ssl)” in subsea level view, “(tvd)” in true vertical depth view, “(vs)” in vertical section view or “(oh)” in open hole depth view.

Right Click Font Orientation Menu Options on Depth Layer.

1. On the **Depth** layer, **right click** anywhere to activate the pop-up menu.



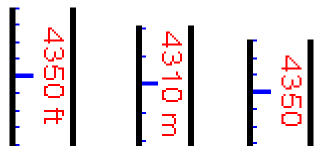


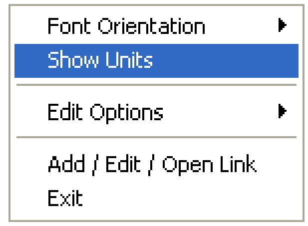
2. **Click** on **Font Orientation** and it will activate a pop out menu and then **click** on **Vertical** and the Depth font will be displayed up and down on all depth layers on all logs.

3. **Click** on **Font Orientation** and it will activate a pop out menu and then **click** on **Horizontal** and the Depth font will be displayed left to right on all depth layers on all logs

Right Click Show Units Menu Options on Depth Layer.

1. On the **Depth** layer, **right click** anywhere to activate the pop-up menu.





2. **Click** on **Show Units** and the Depth units in the depth layer illustrated with either an m (meters) or ft (feet) will be turned on or off.

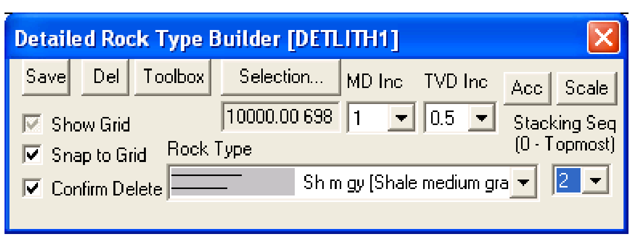
NB. These depth font options can also be manipulated in the **System Option** located under the **Option pull down menu** in the **Font Tab**

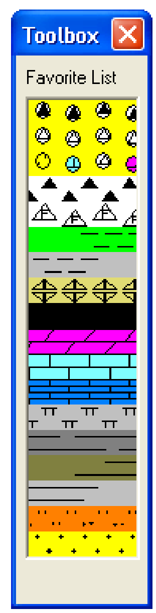
Detailed Lithology Layer - Rock Type Builder

In **Power*Curve**, this layer allows you to create a visual representation of the **Interpreted Lithology** associated with the horizontal well path and gives you the ability to show **Lithology** above and below the well path. In the Power*Suite applications you can use this layer to draw and or correlate lithology between wells.

Drawing Detailed Lithology

1. **Double click** on the active **Detailed Lithology** layer to activate the **Detailed Rock Type Builder** window as well as a **Rock Favorites List Toolbox**. The active grid pattern (defaulted to **1** increment) will become apparent in the **Detailed Lithology** layer.



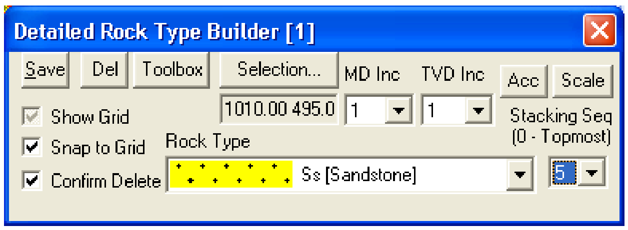


Note: When this layer is first initialized on your log, you will be prompted with a **Measured Depth** interval and a **Scale** for the top and bottom of the layer. This scale defines the upper and lower limits of your **Detailed Lithology** and should correspond to the left and right scales of your well path curves (these curves were added when you first began building your horizontal log). The scale can be changed at any time and new scales may be added. If the scales in the detailed lithology layer are changed the existing lithology will be redrawn with the same x,y co-ordinates as previously drawn but will be represented differently due to the scale change.

When **Detailed Lithology** is your active or working layer, you will have the **True Vertical Depth** (**TVD**) increments visible on the left side of the layer. These are determined by the major/minor linear cycle settings selected in the **Layer Configuration** window.

2. **Select** a **rock type**.

   - The user can **click** on the desired **Rock Type** from the Favorites Toolbox.
   - The user can **right click** anywhere within the **Detailed Lithology** track to activate the pop-up menu. Then select by left clicking once on the desired **Rock Type** from the pop-up menu.
   - You may also select a **Rock Type** from the **Rock Type** field within the **Detailed Rock Type Builder [DETLITH]** window, if the desired **Rock Type** is <u>not</u> displayed in the pop-up menu or Toolbox.
   - The user can **click** on a previously drawn lithology that is the same as you wish to draw with.
   - If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Detailed Rock Type Builder [DETLITH]** window.



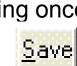
<u>**Note**</u>**:** The graphical images utilized in the pop-up menu represent specific **Rock Types** that can be selected by the user in the **System Options** window (See the **System Options** section).

<u>**Note**</u>**:** A bed is created by defining upper and lower boundary lines, which are then connected at the ends of their respective lines to form either a rectangle, triangle, square, or polygon containing the selected **Rock Type**.

3. **Define the upper boundary line** of the interval by positioning the mouse pointer on the grid where the line is to be <u>started</u>. Then, **click and drag** the mouse to the <u>end</u> position of the upper boundary line, **release** the mouse button, and the upper boundary line of the interval will be drawn accordingly.

<u>**Note**</u>**:** If the upper boundary as drawn for the bed is not located in the correct position. The user can right **click** the mouse within the Detailed Lithology Layer to activate the pop-up menu and select **Restart**. The previously drawn bed boundary will be erased enabling the user to start again.

4. **Define the lower boundary line** of the interval by positioning the mouse pointer on the grid where the line is to be <u>started</u>. Then, **click and drag** the mouse to the <u>end</u> position of the lower boundary line, **release** the mouse button. The upper and lower boundary lines of the interval will be <u>joined</u> to draw a rectangle, triangle, square, or polygon containing the selected **Rock Type**: depending on <u>where</u> the upper and lower boundary lines of the interval were placed on the grid within the **Detailed Lithology** layer.

5. You can define the stacking order of this bed, once it's drawn, by clicking once on the bed, selecting the stacking order number from the **Stacking Seq** field drop box and clicking on the 

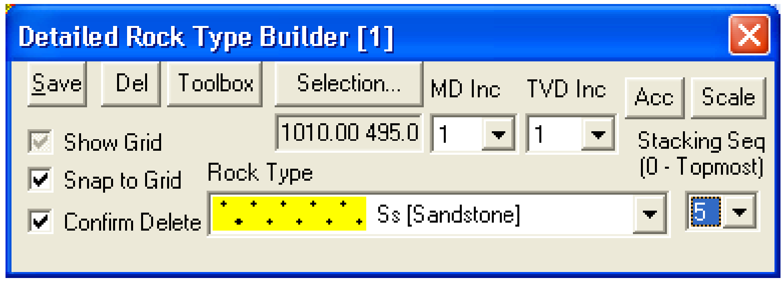
button or press ALT-S.

Once a rock type is selected the user can draw a rectangle of that lithology on the detailed lithology layer. This method creates a shortcut that automatically draws the top and bottom bed boundaries. To do this the user must **depress and hold** the **Ctrl** key on the keyboard **down**, while **clicking and dragging** the **left** mouse button on the detailed lithology layer. The user will notice the rectangle being drawn on the layer. When the interval you want is defined let the mouse button go and the lithology will be drawn.

<u>**Note**</u>**:** When several lithology beds are stacked on top of each other, you can cycle though the stack each time you **click** your mouse pointer on the stacked beds within the **Detailed Lithology** layer. Each time the left mouse button is clicked, the **Rock Type** field of the **Detailed Rock Type Builder** window will cycle to reflect a successive lithology within the stack.

6. Press the **Esc** key on the keyboard to exit from the **Detailed Rock Type Builder [DETLITH]** window.

Overview of the Detailed Rock Type Builder



The **Selection** field identifies the upper left and lower left coordinates of the selected bed, listed as the **Measured Depth (MD)** increment and the **Detailed Lithology Scale** increment.

The Toolbox **button** is a toggle that activates and deactivates the Favorites List Tool box.

The Selection... **button** activates a **Detailed Lithology List**, which displays every lithology drawn, showing its **Rock Type**, **Stacking Number**, and the upper and lower left side coordinates of the rectangle, triangle, square, or polygon.

You may change the **MD** (**Measured Depth**) or **TVD** (**True Vertical Depth**) increments by selecting them from their respective drop boxes. This can be done to improve the accuracy of the mouse pointer, when using the "**Snap to Grid**" option. The **MD** (**Measured Depth**) increments are positioned horizontally across the log (x-axis), while the **TVD** (**True Vertical Depth**) increments are shown vertically (y-axis).

Show Grid - There are three separate options you may use to display the grid:

No grid pattern - There is no check mark in the **Show Grid** check box.

Grid pattern displayed in front of lithologies - A black check mark is displayed in the **Show Grid** check box.

Grid pattern displayed behind lithologies - A gray check mark is displayed in the **Show Grid** check box.

Note: Using the **Movable Grid**, in the **Layers Organizer** window, becomes particularly applicable in the **Detailed Lithology** track, when you wish to place the **Well Path** grid pattern on top of the **Detailed Lithology** layer.

Snap to Grid - Activating this check box will define the mouse pointer's coordinates to the closest available corners on the grid pattern. This helps to provide a common basis for drawing continuous beds and eliminates the need to search for an exact coordinate with the mouse. All beds drawn will conform to the grid pattern, if the **Snap to Grid** check box is activated.

Confirm Delete - It's a good idea to activate the **Confirm Delete** check box. When it is activated, you will be given a system message each time you attempt to delete a record from the log. This can help you to avoid accidental record deletion.

Scale button - Activates the **Detailed Lithology Scale** window, where you may add, delete, or change existing scales for the **Detailed Lithology** layer.

Acc button - When you **click** on the Acc **button**, you activate the **Detailed Rock Accessory Builder** window. This window can be used in the same manner as the **Rock Accessory Builder** found in the **Interpreted Lithology** layer.

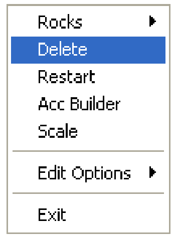
Stacking Sequence - Once a **Rock Type** is drawn, you have the ability to stack up to **11** beds directly on top of one another. This can be used to fill gaps in previously drawn lithologies or to layer stringers, etc....

Deleting a Detailed Lithology

1. **Double click** anywhere within the Detailed Lithology Layer to activate the **Detailed Rock Type Builder** window.

Note: If the lithology you wish to delete is part of a stack, you must **click** the **left** mouse button on the stack, until the lithology you wish to delete is displayed in the **Detailed Rock Type Builder** window**.**

2. **Right click** anywhere <u>within</u> the **Rock Type** you wish to delete to activate the pop-up menu shown below:



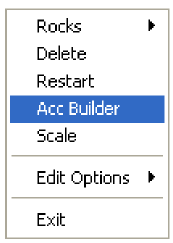
3. Select **Delete** from the pop-up menu and you will receive the following system message, "***Do you really want to DELETE _ [_]?***"
4. **Click** on Yes **button** to confirm the deletion and the selected **Lithology** will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Detailed Rock Type Builder [DETLITH]** window.

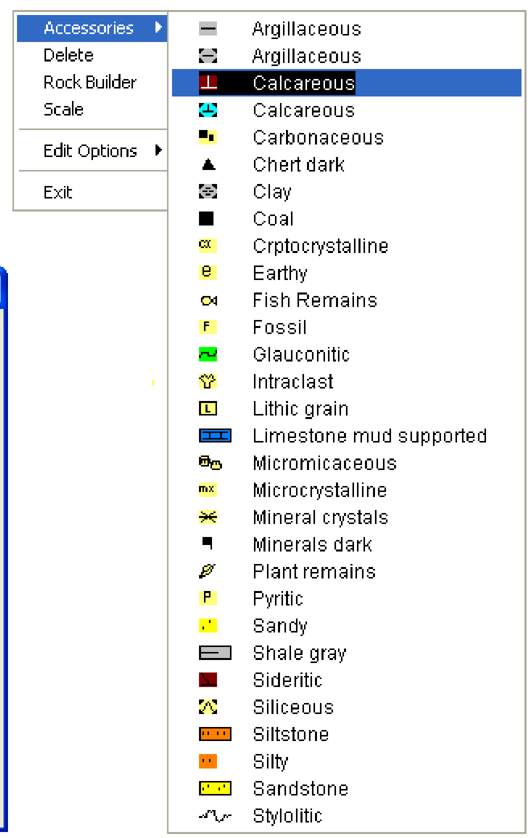
Detailed Lithology Layer - Rock Accessory Builder

The Rock Accessory Builder allows you to add accessories to the Detailed Lithology layer.

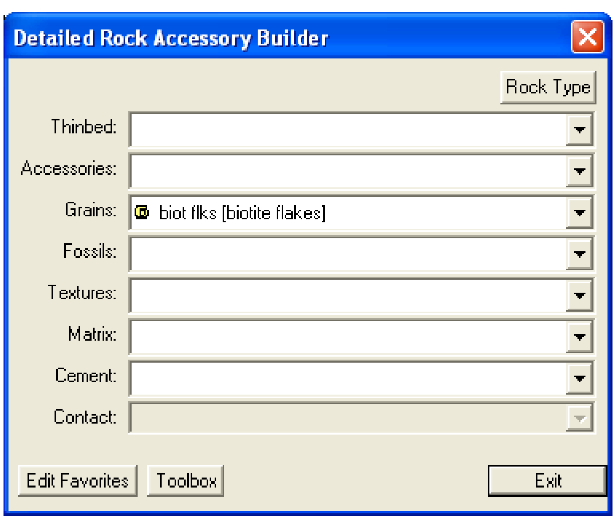
Drawing Accessories

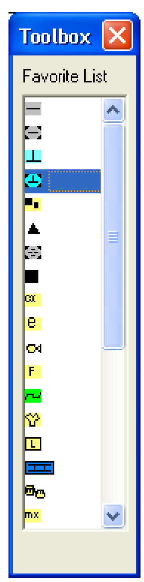
1. **Double click** anywhere within the **Detailed Lithology** layer to activate the Detailed **Rock Type Builder.**
2. Then, **right click** anywhere within the **Detailed Lithology** layer to activate the pop-up menu shown below, or **click** on the Acc **button** in the **Detailed Rock Type Builder** window:





3. Select **Acc Builder** selection from the pop-up menu to activate the **Rock Accessory Builder** window and the **Accessory Favorites List Toolbox**.





4. **Select** the **Accessory from the Toolbox** by clicking on the accessory you wish to use **or right click** again anywhere within the **Detailed Lithology** layer to activate another pop-up menu.

<u>Note</u>: The graphical images utilized in the pop-up menu represent specific **Accessories** selected by the user in the **System Options** window (See the **System Options** section.

5. **Click** on the appropriate **Accessory** symbol from the pop-up sub-menu and the **corresponding** field in the **Rock Accessory Builder** window will automatically be filled in with the selected **Accessory**. You may also select a **Rock Accessory** from the **Thinbed, Components, Matrix and Cement** fields within the **Rock Accessory Builder** window, if the desired **Rock Accessory** is <u>not</u> displayed in the Accessory Favorite List Toolbox or the pop-up menu.

<u>Note</u>: The user can get easily to the first letter of the Accessory they wish to select by clicking once in the appropriate field in the Rock Accessory builder to highlight a selection and then typing in the first letter of the component they wish to choose. This will refresh the list with the first letter and then the user can scroll through the selection until they see their selection and **click** to select.

6. **Click** anywhere within an existing **Detailed Lithology** to insert the desired **Accessory**/**Accessories**.

The Toolbox can be activated or deactivated by clicking on the 

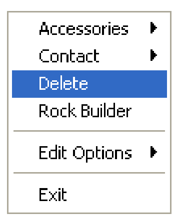
button within the Rock Accessory Builder Window.

Moving a Thinbed, Components, Internal Contact, Matrix, or Cement

1. With the **Rock Accessory Builder** window activated **click and drag** the **Accessory symbol** you wish to move and drag the red box to the new location.
2. **Release the mouse button** and the accessory will be redrawn at the position.

Deleting a single Thinbed, Components, Internal Contact, Matrix, or Cement

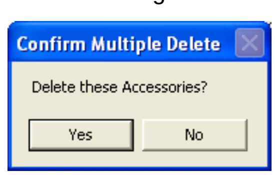
1. With the **Rock Accessory Builder** window activated **right click** (in the upper right corner) of the **Accessory** symbol you wish to delete and the pop-out menu will be activated.



2. **Click** on the **Delete** selection from the pop-out menu and the selected **Accessory** symbol will be deleted.
3. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Builder** window.

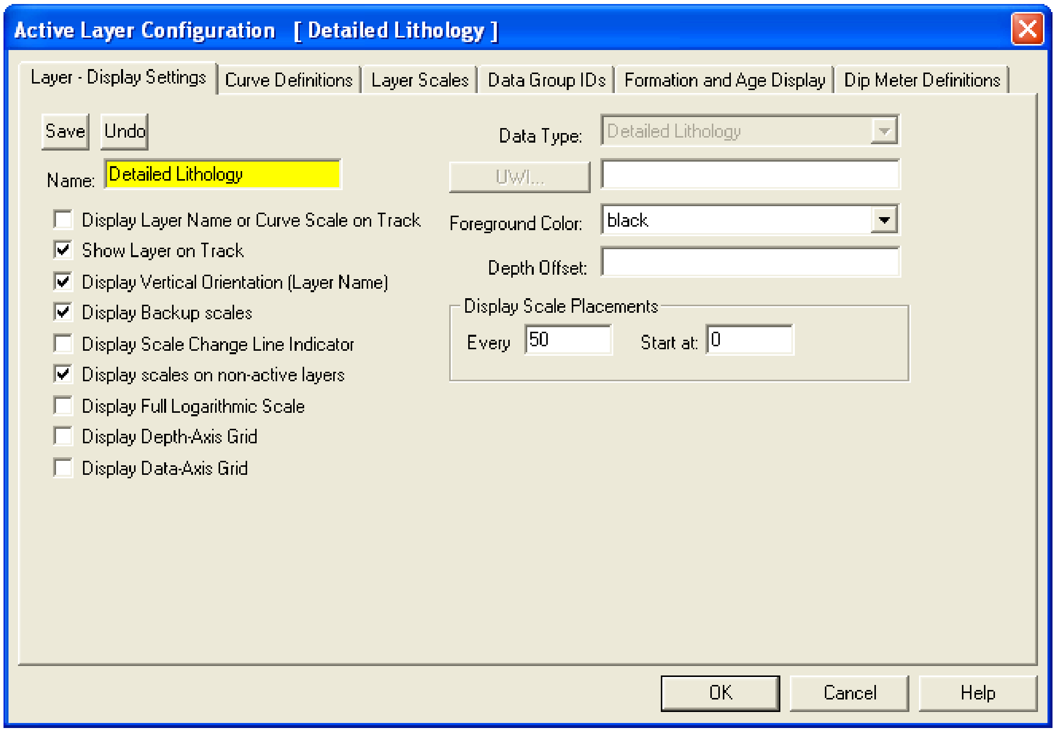
Deleting Multiple Thin beds, Components, Matrix, or Cements

1. With the **Rock Accessory Builder** window activated **Press and Hold the SHIFT Key** and then **click and drag an area** where the symbols are that you want to delete.
2. **Release** the **mouse button** and this will activate a message.



3. **Click** on the Yes **button**. The accessories that were covered by your drag will be deleted.

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a % **Lithology** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.



Diagenesis Layer

This layer allows you to add or delete **Diagenesis Symbols** in the Power*Core application. There are two types of **Diagenesis** layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

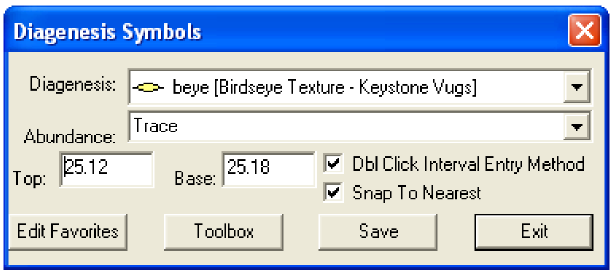
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a Diagenesis. The Diagenesis is also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the Diagenesis symbol may be also resized or deleted if the Diagenesis interval coincides with the beds resized or deleted interval.

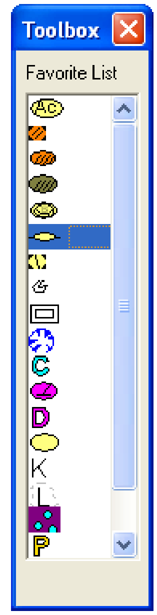
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Diagenesis

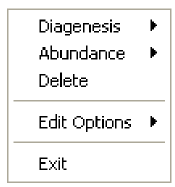
Note: All bed restricted description categories, such as **Diagenesis (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a Diagenesis until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Diagenesis track / layer** to activate the **Diagenesis Symbol Builder** window and toolbox. The toolbox can be turned on or off by clicking on the Toolbox button in the builder.

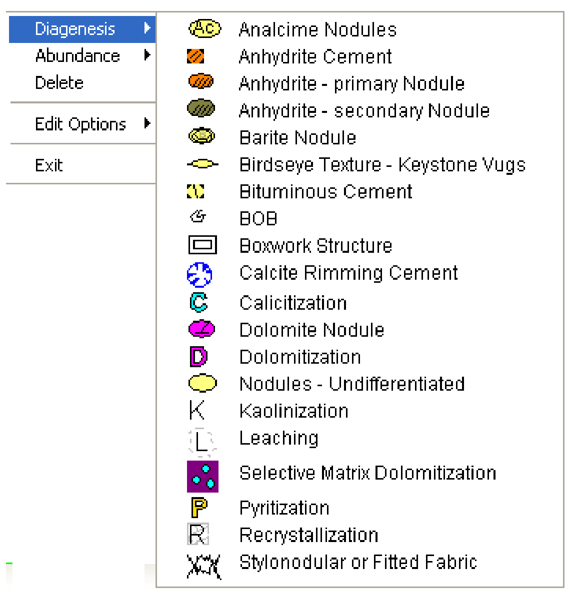




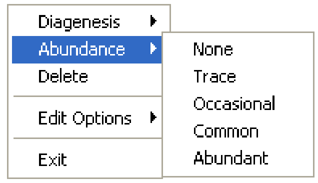
2. **Right click** anywhere on the **Diagenesis** track / layer to activate the pop-up menu.



3. **Click** on the **Diagenesis** favorites list to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. If an abundance is required, **right click** on the existing Diagenesis, **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The Diagenesis interval will be drawn accordingly.

6. **Double Click** within an existing rock type interval in the Diagenesis layer with the ☑ Dbl Click Interval Entry Method activated and the entire interval will be filled in with the attributes that have been entered into the **Diagenesis Symbols** window.

7. **Click and drag** the mouse on the track / layer close to an existing Diagenesis Symbol (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the Diagenesis. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

<u>Note</u>: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.

<u>Tip</u>: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **7** to add more Diagenesis symbols to the track.

<u>Note</u>: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Diagenesis Symbols Builder** window.

Resizing an Interval

1. **Double click** on the **Diagenesis** track / layer to activate the **Diagenesis Symbols Builder** window.

Mouse Pointer Method

2. **Click** on the symbol you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕ .
4. . **Release the mouse button** and the interval will be resized.

Keypad Method

Click once on the Diagenesis Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

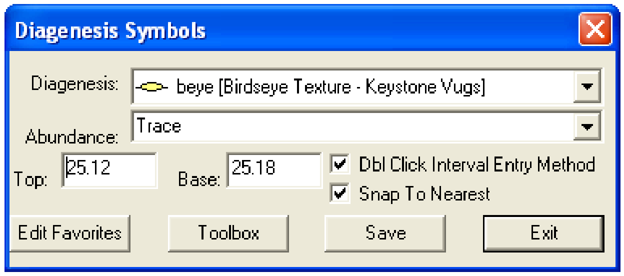
1. **Double click** on the **Diagenesis** track / layer to activate the **Diagenesis Symbols Builder** window.

2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.

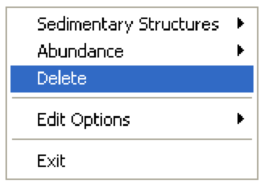
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a ✥ if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Diagenesis** track / layer to activate the **Diagenesis Symbols Builder** window.



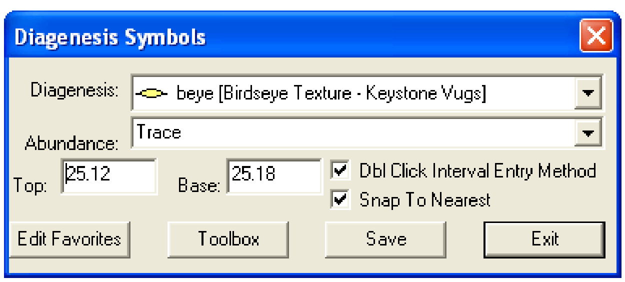
2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



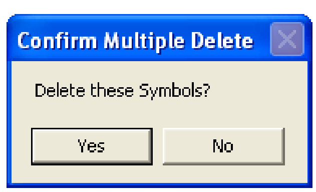
3. **Click** on **Delete** and the **Diagenesis** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Diagenesis** intervals from the **Diagenesis** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Diagenesis Symbols Builder** window.

Deleting Multiple Intervals

1. **Double click** on the **Diagenesis** track / layer to activate the **Diagenesis Symbols Builder** window.

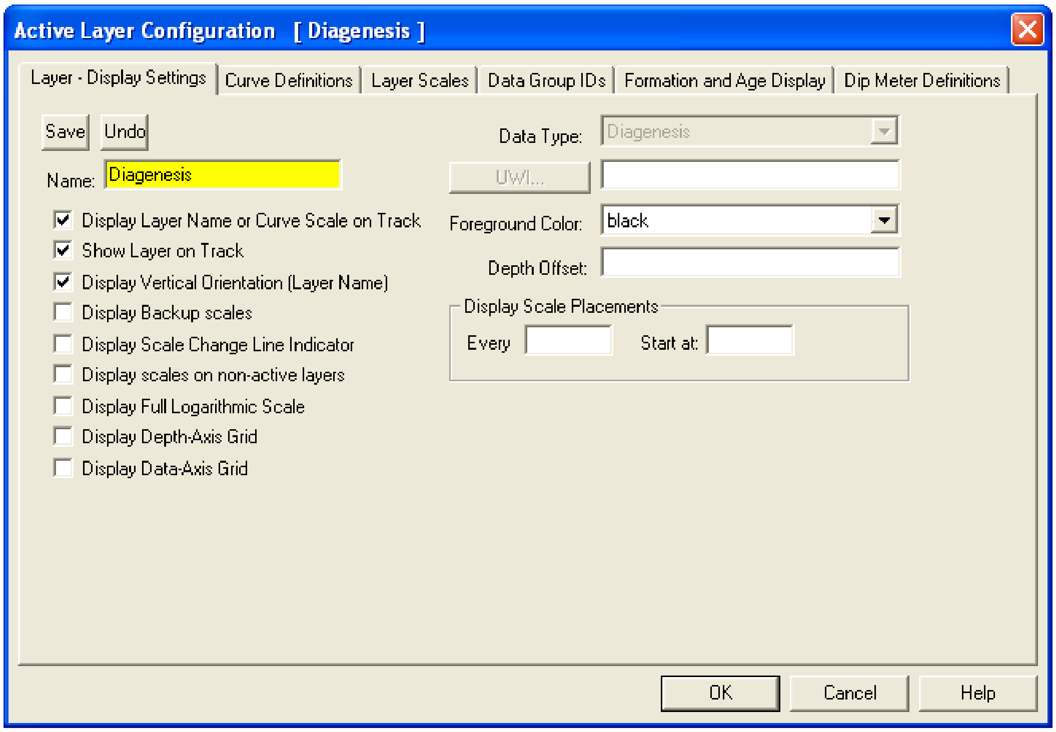


2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on Yes **button** and the **Diagenesis Symbols** intervals encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Diagenesis Symbols Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Diagenesis** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Diagenesis** layer is active.



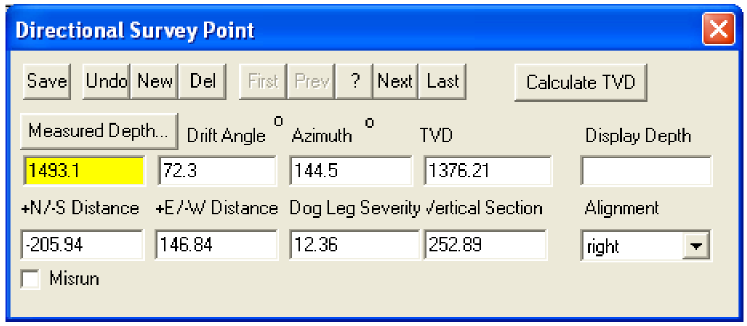
Directional Survey Points Layer

This layer allows you to display some of the Directional Survey Point information on the log.

DS 29.34° AZ 339.6°
TVD 273.25 SSL -248.35

Adding Directional Survey Data

1. **Double click** on the **Directional Survey Layer** to activate the Directional Survey Points window shown below. **Or** the user can also **click** on **Directional Survey,** under the **Reports** menu selection. This will activate the Survey Report then **click** on the Survey Points **button.**.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

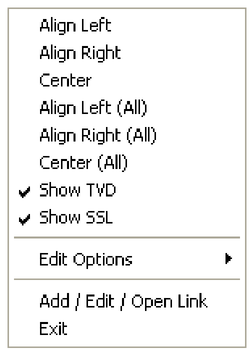


Note: The Directional Survey Layer has the Survey Point Information that consists of the **Inclination**, **Azimuth**, **TVD Depth** and **Subsea Depth.** The Azimuth can be displayed in either the 0-360 degrees or the Quadrant system. This option is available in the System Options, Display tab under the Options Menu.

To Change the Display

7. **Double Click** on the **Directional Survey track / layer** to activate the Directional Survey Point data entry window

8. **Right click** at the **depth** on the **Directional Survey / layer** where the data to change is to activate the pop out menu. And click on one of the selections.



Align Left Option – **Right click** on the **Directional Survey layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Align Left** to change the display position of that survey to the left.

Align Right Option **–** **Right click** on the **Directional Survey layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Align Right** to change the display position of that survey to the right.

Centre Option – **Right click** on the **Directional Survey layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Centre** to change the display position of that survey to the centre.

Align Left (All) Option – **Right click** on the **Directional Survey layer** to activate the pop out menu seen above and **select Align Left (All)** to change the display positions of all the surveys on the layer to the left.

Align Right (All) Option **–** **Right click** on the **Directional Survey layer** to activate the pop out menu seen above and **select Align Right (All)** to change the display positions of all the surveys on the layer to the right.

Centre (All) Option – **Right click** on the **Directional Survey layer** to activate the pop out menu seen above and **select Centre (All)** to change the display positions of all the surveys on the layer to the centre.

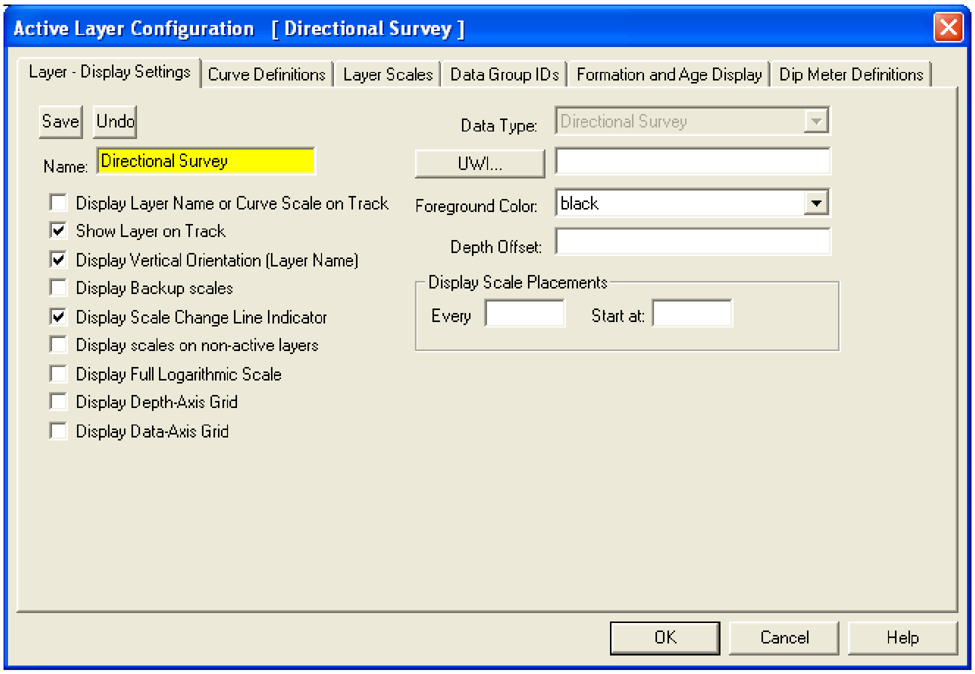
Show TVD Option - **Right click** on the **Directional Survey layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Show TVD** to toggle between showing the TVD Depth or not for all the survey points.

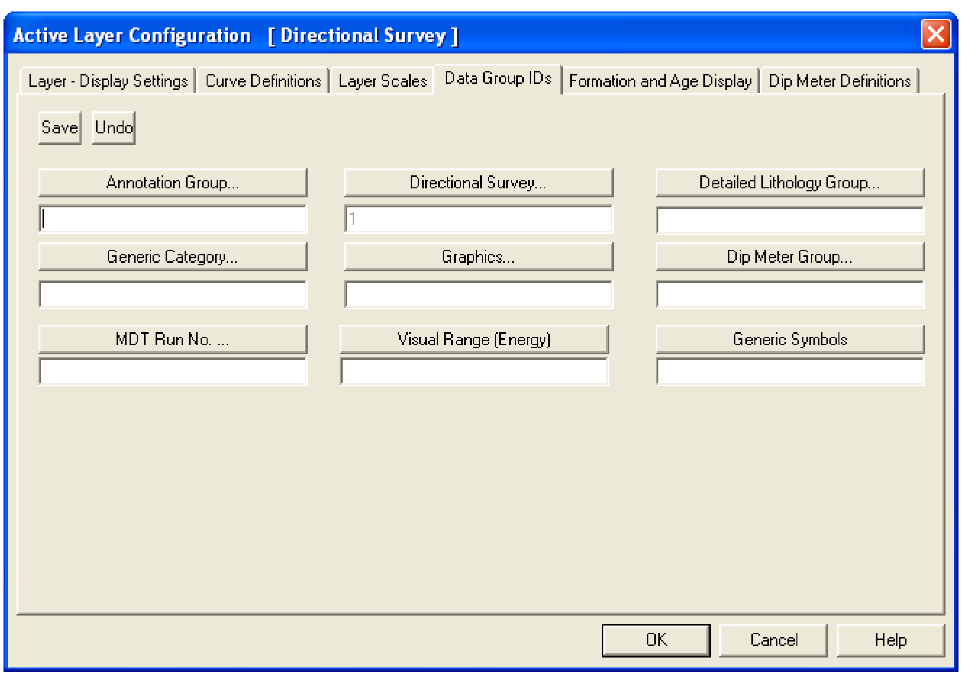
Show SSL Option - **Right click** on the **Directional Survey layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Show SSL** to toggle between showing the SSL Depth or not for all the survey points.

Moving the Directional Survey Text Independently without the Right Click Options

1. **Double Click** on the **Directional Survey track / layer** to activate the **Directional Survey Point** data entry window.
2. **Hold the CTRL key down on your keypad** and then move the mouse to the Survey text data you want to move and then **click and drag the information to a new spot** on the layer. If done correctly you will see a box outline move with the mouse and the text will be redrawn when you **let go of the mouse button** and then the CTRL key

<u>Note</u>: Every type of layer in **Power*Log / Core & Curve** has a **Data Type** classification. The default settings for the **Directional Survey Data** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Directional Survey Data** layer is active.



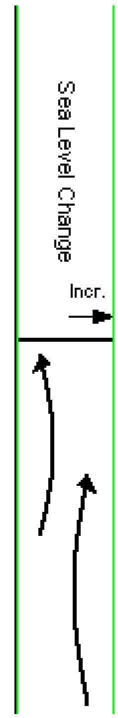


Energy / Sea Level Change Layer

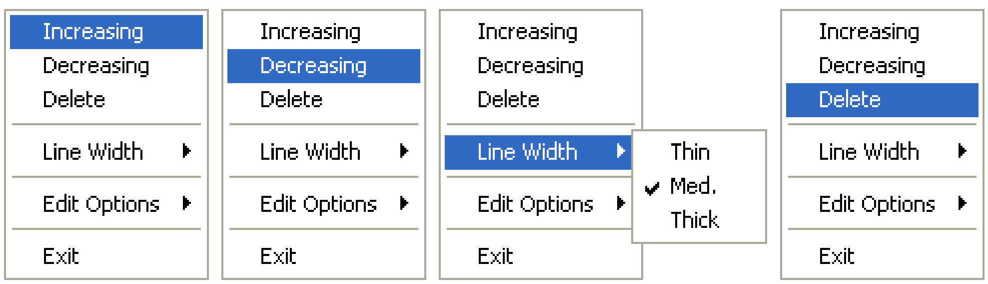
This layer has the ability graphically represent a change with an arrow either increasing or decreasing in an upward direction. .

How to enter a Visual Change interval.

1. **Double Click** on the **Visual Change Layer** to activate the Visual Change Data Entry Window. If the Visual Change window has data filled in **Click** on the New **button or press ALT-N** and then fill in a new record.



2. Define the desired interval by **clicking and dragging** the mouse pointer within the Visual change layer track. The interval will be drawn accordingly.
3. The user can right click on the symbol area and change the arrow direction the line arrow size or delete the arrow altogether.



4. The user can also **type** in the **Top Depth, Base Depth and select either** Decreasing Increasing **radio buttons**. The user can use the **TAB key** on the keypad to advance through the data entry fields and **Shift Key and TAB key** simultaneously to go backwards through the data entry fields.
5. **Click** on the Save **Button** to save the record.
6. **Repeat** steps **2-3** for more entries.
7. **Click** on the Exit **Button** to close the data entry window or click on the in the upper left corner.

Resizing an Interval

Mouse pointer Method

1. **Double click** on the **Visual Display** track / layer to activate the **Visual Display Builder** window.

Mouse Pointer Method

2. **Hold the CTRL Key down and Click** on the **symbol** you wish to resize. If done correctly it will indicate with a grey box outline.
3. **Still Holding** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends**. **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor .

4. . **Release the mouse button** and the interval will be resized.

Keypad Method

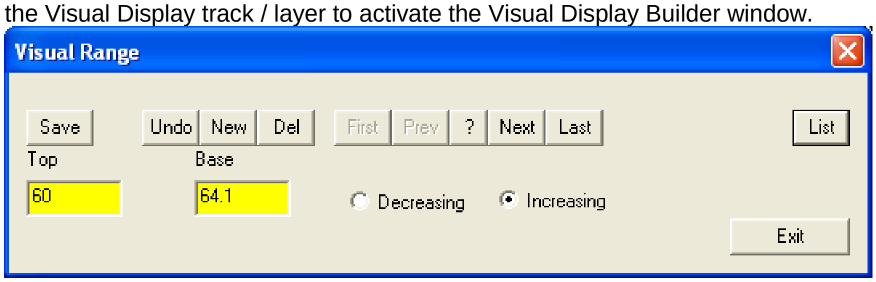
1. **Hold the CTRL Key down and Click** on the **symbol** you wish to resize to bring it into the builder and then you can change the either the number in the from depth or to depth and / or Decreasing Increasing and then **click** on the Save **button**.

Moving an Interval

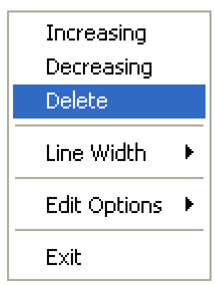
1. **Double click** on the **Visual Display** track / layer to activate the **Visual Display Builder** window.
2. **Hold the CTRL Key down and Click** on the **symbol** you wish to resize. If done correctly it will indicate with a grey box outline.
3. **Hold** the **CTRL Key** down on the keypad and **move the mouse pointer over the interval** to be moved. Your cursor will turn into a ✥. **Click and drag** the interval to a new position.

Deleting an Interval

1. Double click on the Visual Display track / layer to activate the Visual Display Builder window.

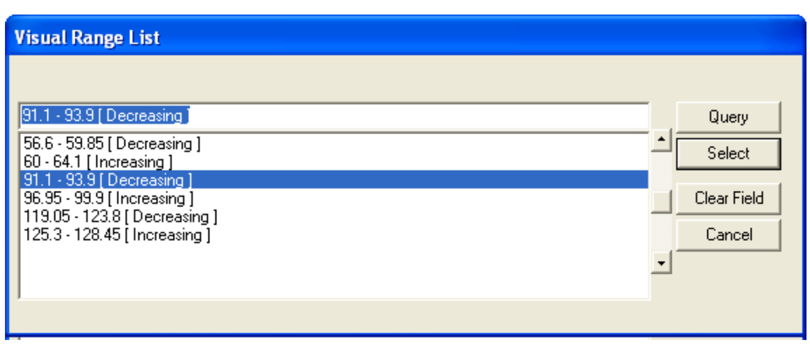


2. **Right click** anywhere within the interval you wish to delete to activate the pop-up menu.



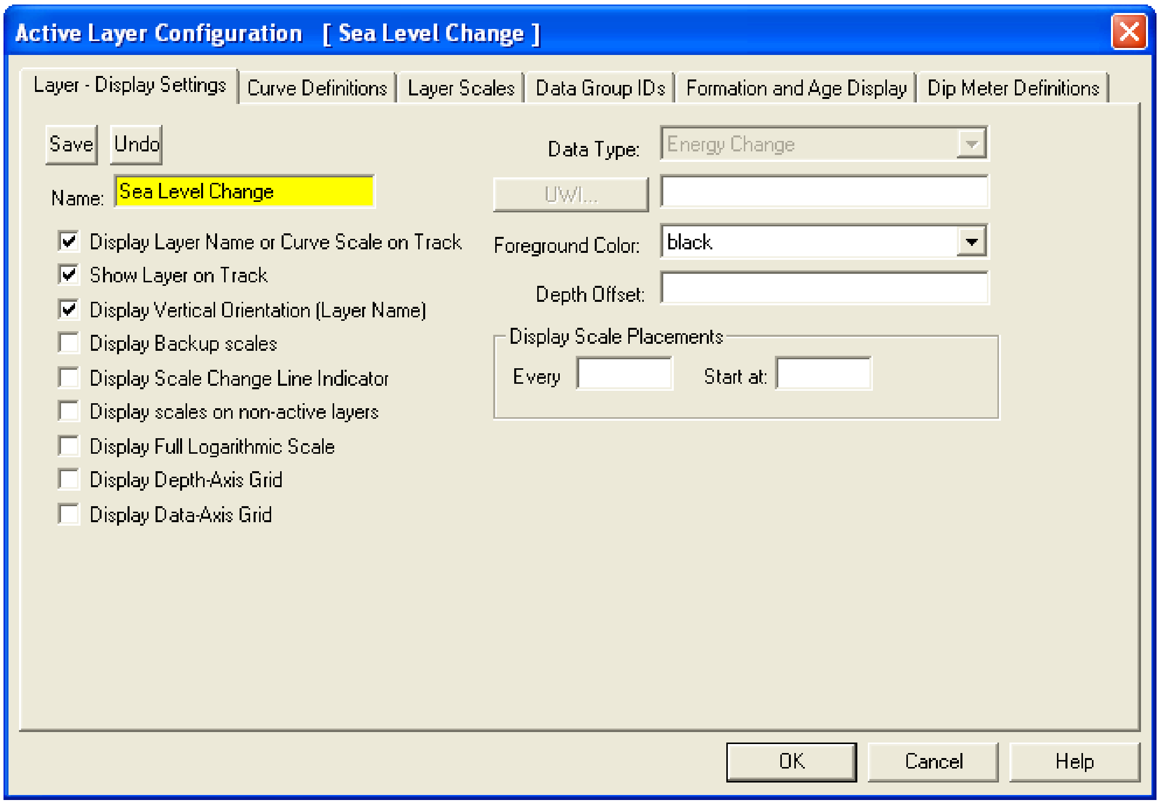
3. **Click** on **Delete** and the interval will be deleted accordingly.

4. The user can also **click** on the List **button** within the builder. This will activate a list of intervals drawn to date. Select from the list by **double clicking on the interval** you wish to delete. This will bring the interval into the builder. **Click** on the Del **button** in the builder and the interval will be deleted accordingly.



5. **Click** on the Exit **Button** to close the data entry window or click on the in the upper left corner.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the Visual Change is shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Visual Change** layer is active.



Formation Tops (Long Name) Layer

This layer allows you to display some of the Formation Top information on the log.

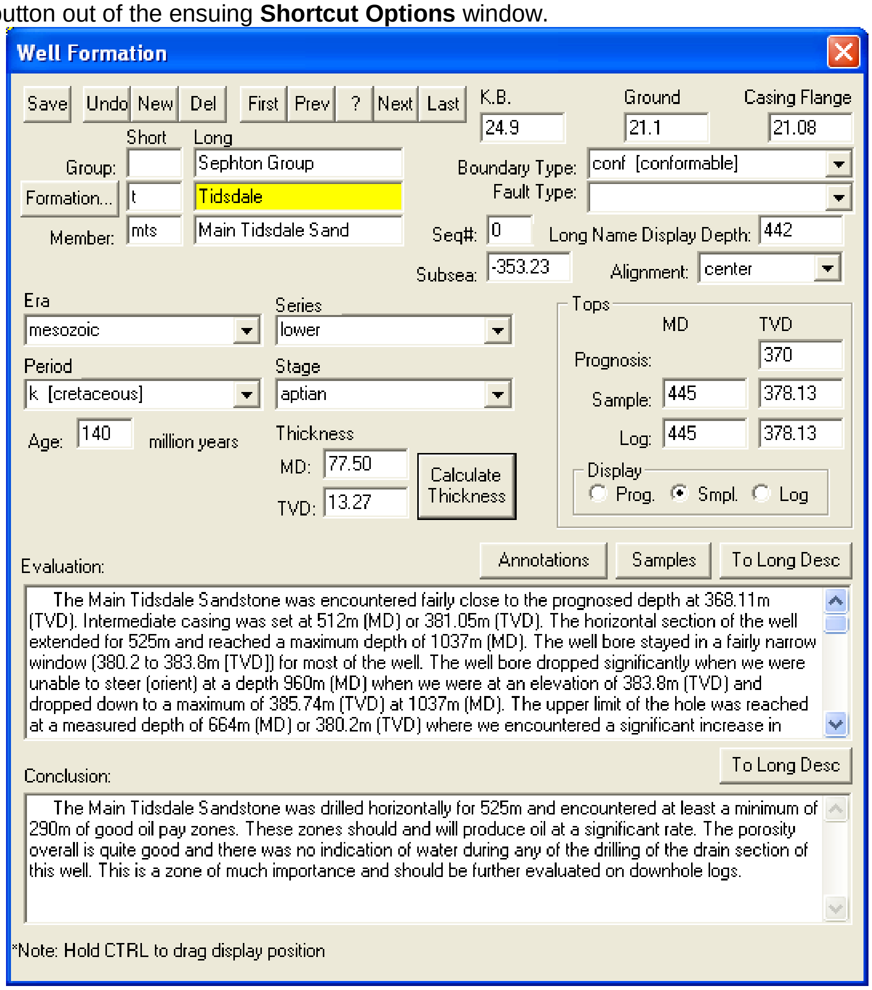
Sephton Evaporitic
(TVD: 293.22)
(SSL: -268.32)

Adding a Formation

1. **Double click** on the Formation Tops (Long Name) layer to activate the Well Formation window shown below. The user can also **click** on **Formation**, under the **Reports** menu selection.

2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.

3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

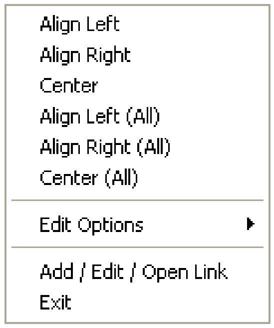


Note: The information entered into the Formation Long Name, Prognosis TVD, Sample Top Log Top (MD &TVD) can be represented in this track / layer.

To Change the Display

1. **Double Click** on the **Formation Top (Long Name) track / layer** just above the data to activate the Well Formation data entry window.

2. **Right click** at the **depth** on the **Formation Top (Long Name) / layer** where the data to change is to activate the pop out menu. And click on one of the selections.



Align Left Option – **Right click** on the **Formation Top (Long Name) layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Align Left** to change the display position of that Formation Name to the left.

Align Right Option – **Right click** on the **Formation Top (Long Name) layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Align Right** to change the display position of that Formation Name to the right.

Centre Option – **Right click** on the **Formation Top (Long Name) layer** at the **depth** of the directional survey to change to activate the pop out menu seen above and **select Centre** to change the display position of that Formation Name to the centre.

Align Left (All) Option – **Right click** on the **Formation Top (Long Name) layer** to activate the pop out menu seen above and **select Align Left (All)** to change the display positions of all the surveys on the layer to the left.

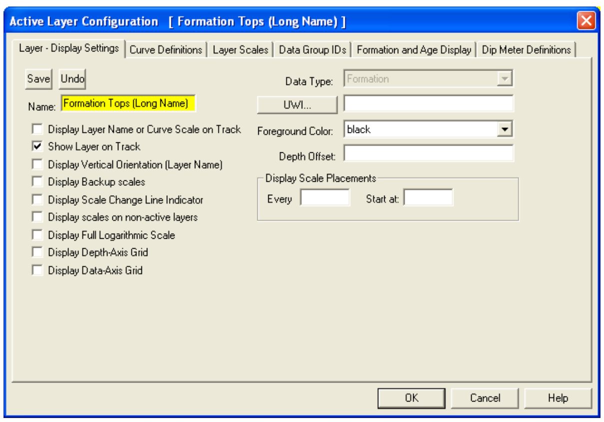
Align Right (All) Option – **Right click** on the **Formation Top (Long Name) layer** to activate the pop out menu seen above and **select Align Right (All)** to change the display positions of all the Formation Names on the layer to the right.

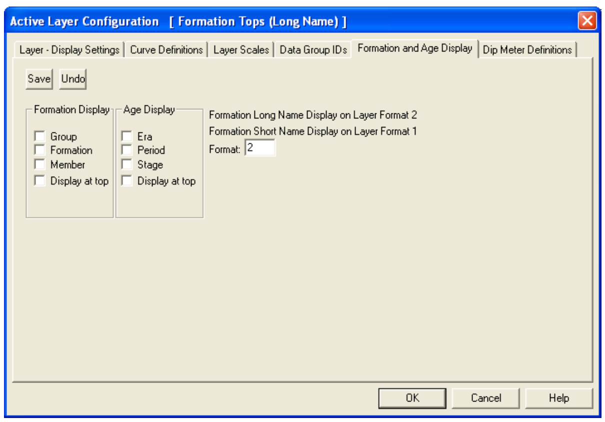
Centre (All) Option – **Right click** on the **Formation Top (Long Name) layer** to activate the pop out menu seen above and **select Centre (All)** to change the display positions of all the Formation Name on the layer to the centre.

Moving the Formation Name Text Independently without the Right Click Options

1. **Double Click** on the **Formation Top (Long Name) track / layer** to activate the Well Formation data entry window.
2. **Hold the CTRL key down on your keypad** and then move the mouse to the Formation text data you want to move and then **click and drag the information to a new spot** on the layer. If done correctly you will see a box outline move with the mouse and the text will be redrawn when you **let go of the mouse button** and then the CTRL key

Note: Every type of layer in **Power*Log / Core & Curve** has a **Data Type** classification. The default settings for the **Formation Top (Long Name) Data** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Formation Top (Long Name) Data** layer is active.





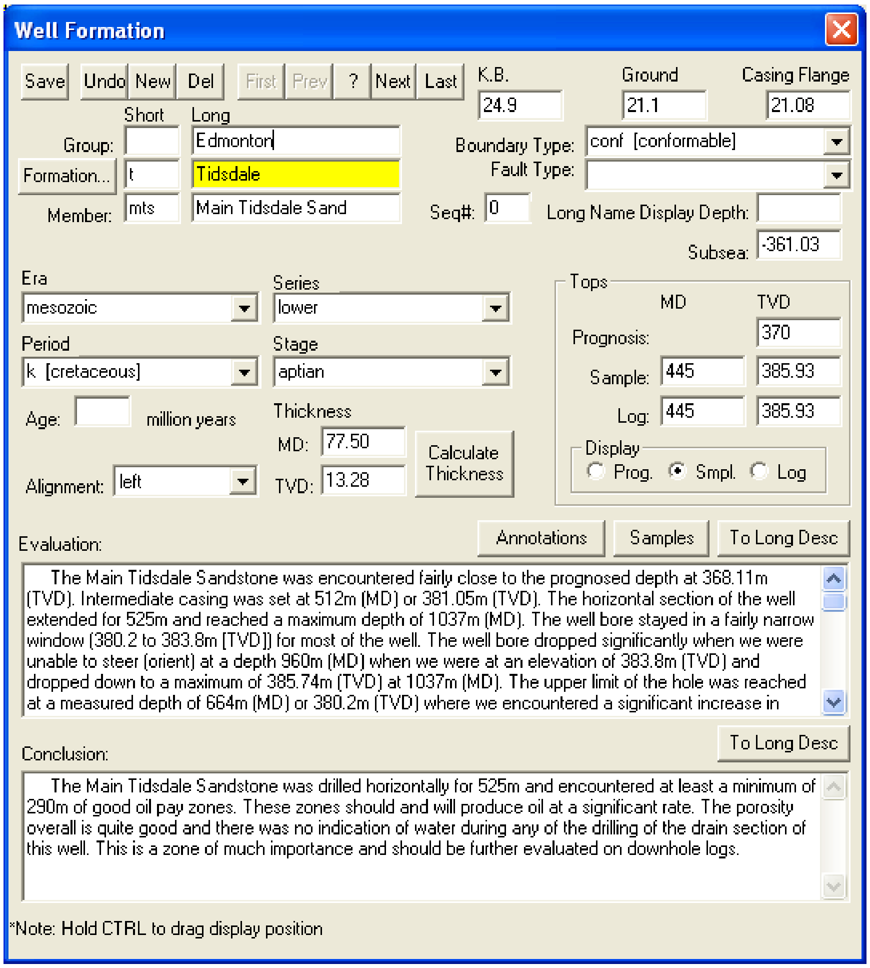
Formations Expanded Layer

This layer allows you to display the Group, Formation and member information on the log.

Adding a Formation

1. **Double click** on the **Formations Expanded** track / layer to activate the **Formation Top** window shown below. The user can also click on **Formation**, under the **Reports** menu selection.

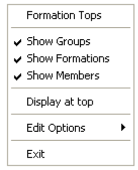
2. Enter in the necessary information and **click** on the Save **button**

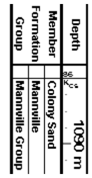


Note: The information entered into the Group, Formation and Member are represented in this track / layer. The top depths are entered into the Sample Top (MD) field. If the Group and Formation are input identically they will run together as a single Group and Formation.

To Change the Display

1. **Right click** on the **Formations Expanded track / layer** to activate the pop out menu. And click on one of the selections.



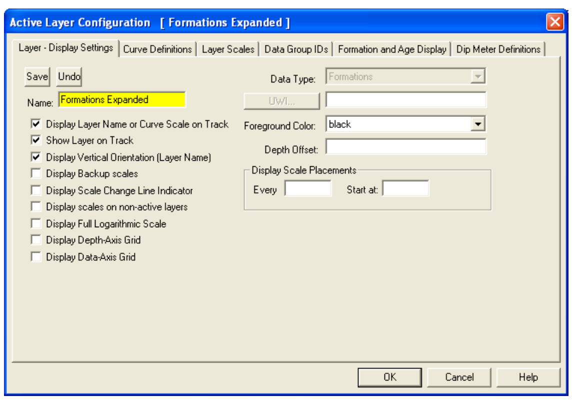


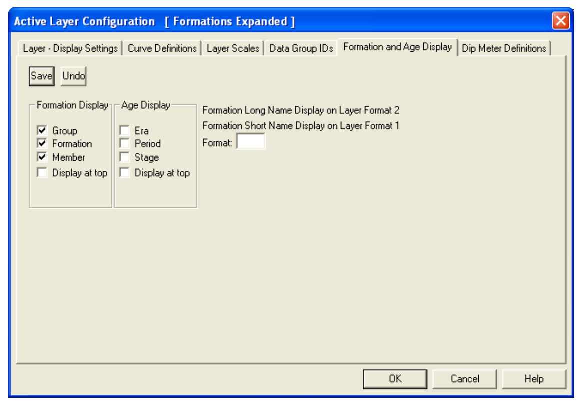
The example above has the Groups, Formations and Members portions of the track / layer all turned on. Also the Names are displayed at the top of the interval versus the middle of the interval.

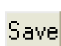
2. A second way to change the Formation display is to make the Formation Tops layer active by **clicking** on the **Formations Expanded track** and **selecting** the **Formations Expanded layer** from the layer selection list.

3. **Click** on the  **Layer Configuration button** on the **Toolbar** or click on **Layer Configuration** under the **Edit** menu selection. This will activate the **Formation Tops Layer Configuration** window.

4. **Click** on the **Formation and Age Display Tab** to activate the window shown below. The user can now select which part of the formation they wish to display along the vertical axis of the log and also whether they wish to display the data at the top or middle of the interval.





6. **Click** on the  **button** to Exit and Save the Layer configuration settings.

Fractures Layer

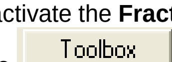
This layer allows you to add or delete **Fracture Symbols** in the Power*Core application. There are two types of **Fracture** layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

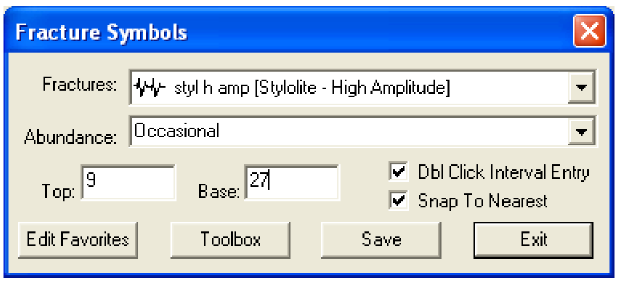
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a fracture. The fracture is also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the fracture symbol may be also resized or deleted if the fracture interval coincides with the beds resized or deleted interval.

The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Fracture

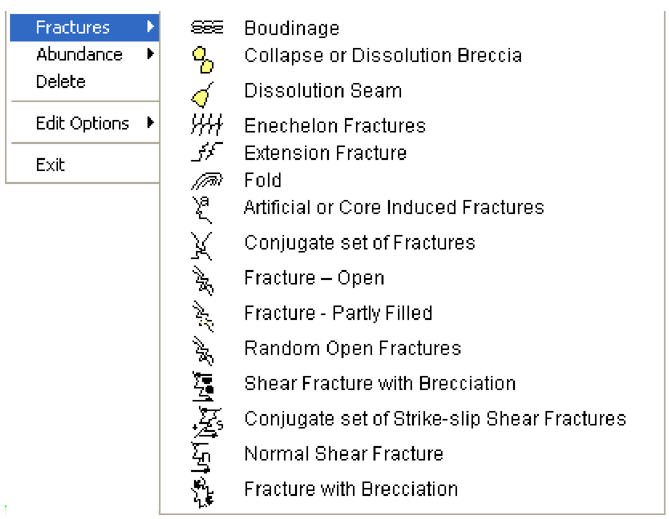
Note: All bed restricted description categories, such as **Fracture (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a fracture, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Fracture track / layer** to activate the **Fracture Symbol Builder** window and toolbox. The toolbox can be turned on or off by clicking on the  button in the builder.

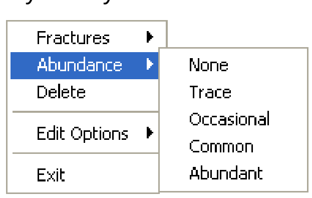


2. **Right click** anywhere on the **Fracture** track / layer to activate the pop-up menu.

3. **Click** on the **Fracture** favorites list to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. If an abundance is required, **right click** on the existing Fracture, **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The Fracture interval will be drawn accordingly.

6. **Double Click** within an existing rock type interval in the Fracture layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the **Fracture Symbols** window.

7. **Click and drag** the mouse on the track / layer close to an existing Fracture Symbol (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the fracture. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

> **Note:** Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
>
> **Tip:** The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **7** to add more fracture symbols to the track.

> **Note:** There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Fracture Symbols Builder** window.

Resizing an Interval

1. **Double click** on the **Fracture** track / layer to activate the **Fracture Symbols Builder** window.

Mouse Pointer Method

2. **Click** on the **symbol** you wish to resize. If done correctly it will indicate with the resize boxes.

3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕.

4. . **Release the mouse button** and the interval will be resized.

Keypad Method

1. **Click once** on the Fracture Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

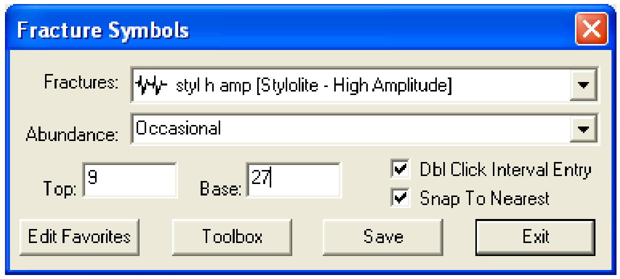
1. **Double click** on the **Fracture** track / layer to activate the **Fracture Symbols Builder** window.

2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.

3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a  if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Fracture** track / layer to activate the **Fracture Symbols Builder** window.

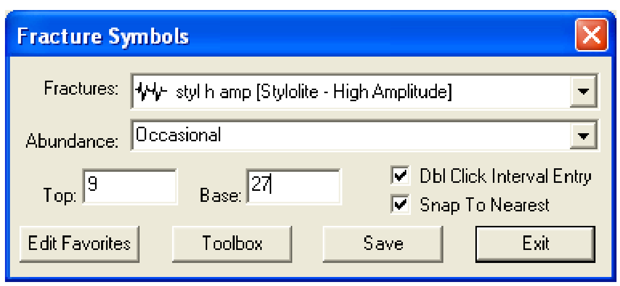


2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.

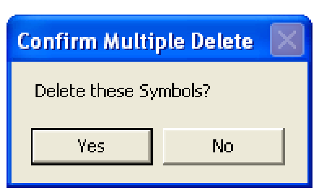
3. **Click** on **Delete** and the **Fracture** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Fracture** intervals from the **Fracture** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Fracture Symbols Builder** window.

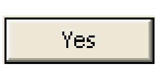
Deleting Multiple Intervals

1. **Double click** on the **Fracture** track / layer to activate the **Fracture Symbols Builder** window.



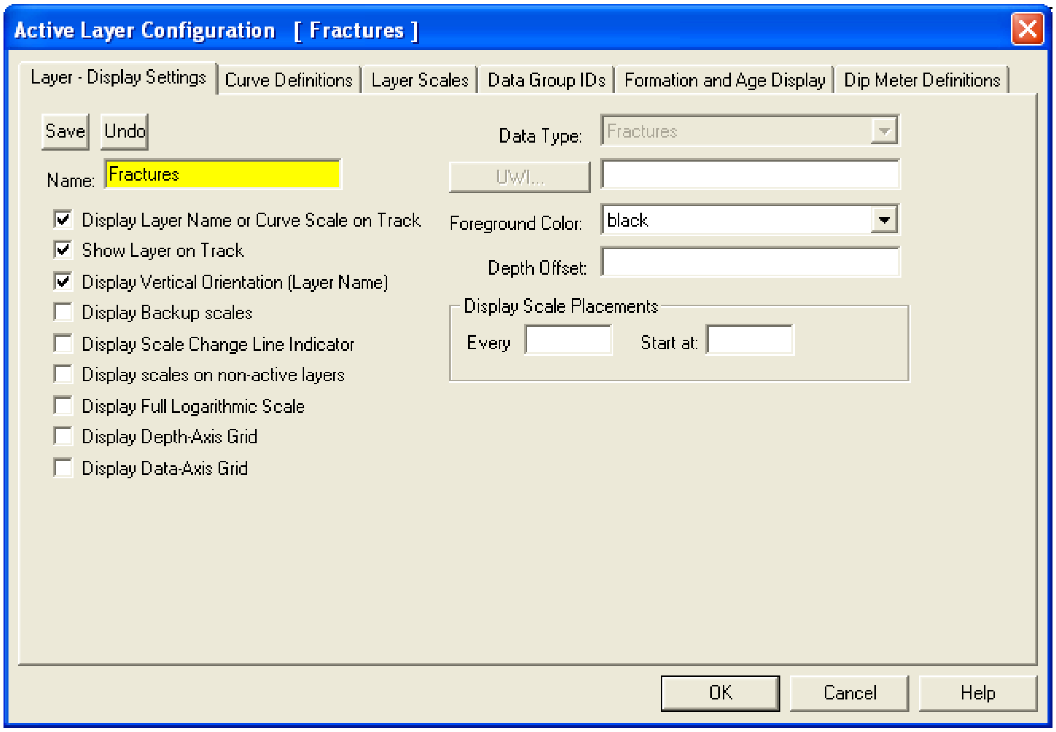
2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on 

button and the **Fracture** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Fracture Symbols Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Fracture** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Fracture** layer is active.



Framework Layer

This window allows you to add and delete Framework in the Framework layer on the log.

Framework is defined as a ratio between **Clastic Material** (greater than 1/16mm), and **Primary Void Filler** (less than 1/16mm). **Framework** is usually expressed as a percentage. **Organic Deposits** (**Fossils**) are considered as **Framework** whether growing in place or transported. Questionable **Framework** represents a non-interpretive **Framework**. This is mainly used for **Glacial Tills**, **Cherts** and highly altered **Carbonates**.

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

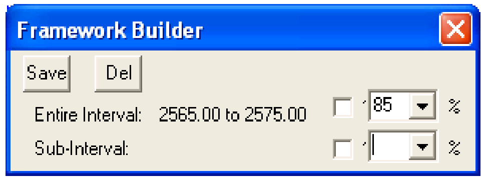
Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

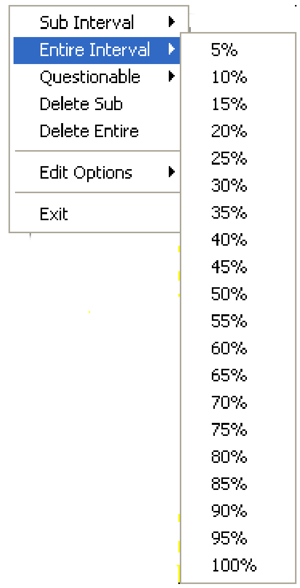
Adding an Entire Interval

Note**:** All description categories, such as **Framework**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Framework**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Framework** layer to activate the **Framework Builder** window.

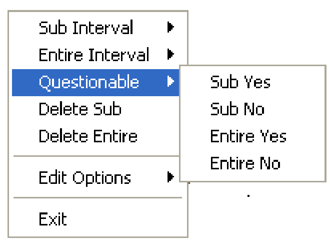


2. **Right click** once anywhere within the interval on the **Framework** track / layer to activate the pop-up menu.



3. **Click** on a **Framework %** from the pop-up menu and it will automatically be drawn within the given interval on the **Framework** track.

Note**:** You can right click on the entire interval entered above and then click on **Questionable** and then select **Entire Yes** from the ensuing pop-up menu for a **Questionable** entire **Framework** interval.



4. Repeat **Steps 2** and **3** to add more entire **Framework** intervals to the **Framework** track.
5. Press the **Esc** key on the keyboard to exit from the **Framework Builder** window.

Note**:** Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn within the interval**. Be aware that if you have utilized an entire interval and you are now sub-intervalizing on a small increment, there will be some overlapping of symbols for certain log scales.

Tip**:** With respect to **Entire Interval**, the **frequency of symbols** at any given scale is handled in the **Systems Options** window selection in the **Options** pull down menu. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

Deleting an Entire Interval

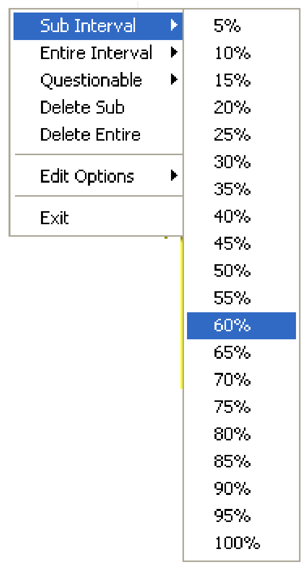
1. **Double click** on the **Framework** layer to activate the **Framework Builder** window.

2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.

3. **Click** on **Delete Entire** and the entire **Framework** interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Framework Builder** window.

Adding a Sub-Interval

1. **Double click** on the **Framework** layer to activate the **Framework Builder** window.
2. **Right click** once anywhere within the **Framework** track / layer to activate the pop-up menu and select a Framework % from the ensuing pop-up menu.



3. **Click and drag** the mouse on the track / layer over the desired subinterval. Or if you just **click your mouse** on the track / layer a subinterval of whatever was selected in step 2 will be added to the layer / track at the depth you clicked at. The subinterval size is defaulted to the screen scale accuracy setting. The Framework sub-interval will be drawn accordingly.

Note: You can right click on the subinterval entered and then click on **Questionable** and then select **Sub Yes** from the ensuing pop-up menu for a **Questionable Framework** sub-interval.

Note: Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**. Be aware that if you have utilized an entire interval and you are now sub-intervalizing on a small increment, there may be some overlapping of symbols for certain log scales.

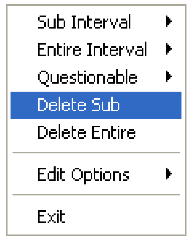
4. Repeat **Steps 2** - **3** to add more **Framework** sub-intervals to the **Framework** track.

Note: If you are only using sub-intervals (without the use of any entire intervals), and you wish to have **only one symbol on the log** (for each click), the sub-interval thickness (or increment), should be equal to or less than 0.25m and the symbol frequency (in the **Systems Options** window under **Options** on the application menu bar), should be 1 symbol every 2 meters or greater, for any log scale.

5. Press the **Esc** key on the keyboard to exit from the **Framework Builder** window.

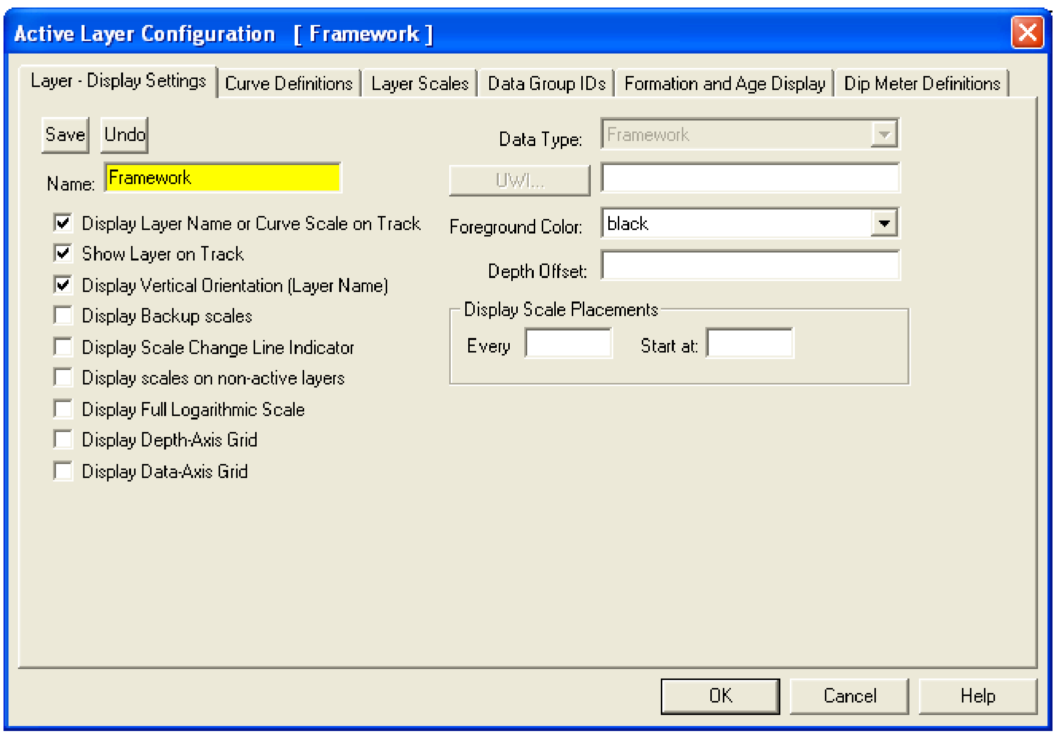
Deleting a Sub-Interval

1. **Double click** on the **Framework** layer to activate the **Framework Builder** window.
2. **Right click** anywhere within the sub-interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Sub** and the **Framework** sub-interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Framework** sub-intervals.
5. Press the **Esc** key on the keyboard to exit from the **Framework Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The default settings for the **Framework** layer are shown below. To access this window, **click** on the . **Layer Configuration button** on the **Toolbar**, when the **Framework** layer is active.

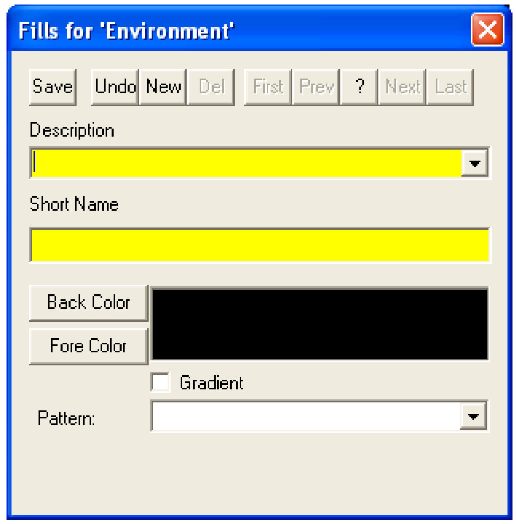


Generic Category Layer

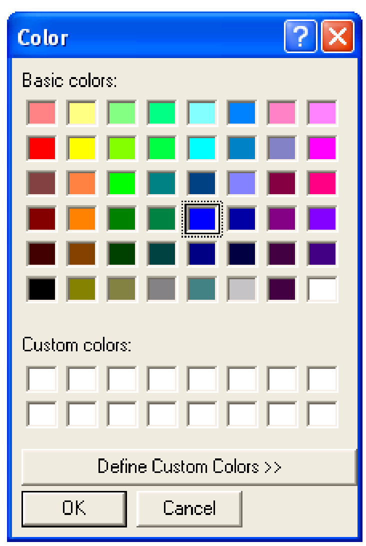
This layer allows the user to add any non specific group of data that the application does not generally have within its specific data categories. Either the data groups are too far ranging or company specific. Facies, Depositional Environments would be two data categories that come to mind. The user can define their own entries and use them with either a long ort short form and or color.

Adding Fill Types to the Generic Category (Environment)

1. **Double click** anywhere within the **Environment** track to activate the **Fills for Environment** window.

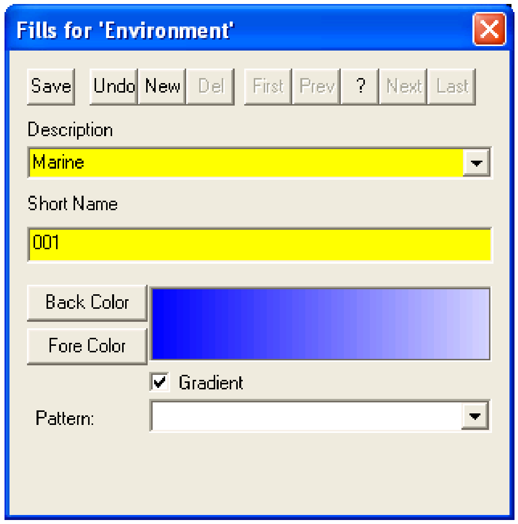


2. **Type** the environment long name into the **Description** field**.**
3. **Type** the environment short name into the **Short Name** field.
4. **Click** on the Back Color **button** and **select a color** from the palette and then **click** on the OK **button**.

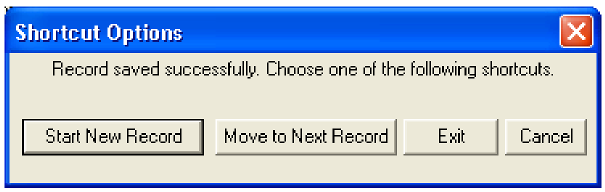


5. **Click** on the Fore Color **button** and **select a color** from the palette and then **click** on the OK **button**.
6. **Click** on the **Gradient** ☑ Gradient to activate a check mark if you want the gradient option.

7. **Click** on the **Pattern** field box arrow to select a specific pattern type. Then, **click** on the Save **button**.



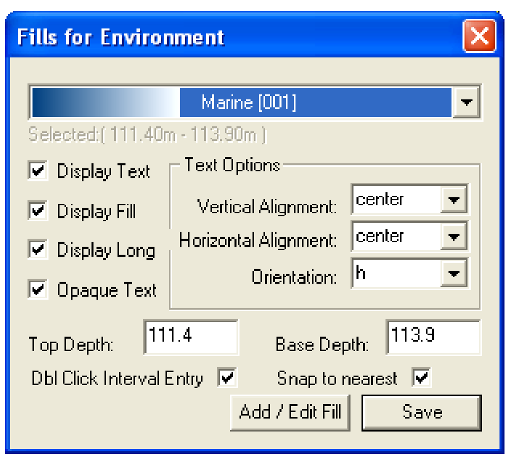
8. The **Shortcut Options** window will be shown.



9. **Select** Exit from the ensuing **Shortcut Options** window. This will clear the window and the new environment is added.

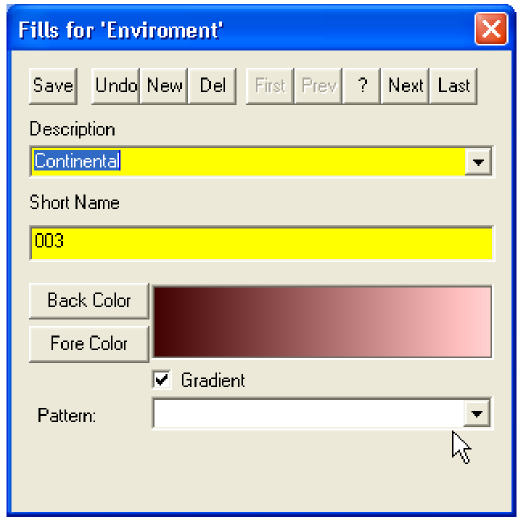
Editing Generic Category Fill Types

1. **Double click** anywhere within the **Environment track** to activate the Fills for Environment window.



2. **Click** on the **fills drop box** and select the fill to be edited.

3. Click on the Add / Edit Fill **button**. Your selection will be shown in the Fill Type window.

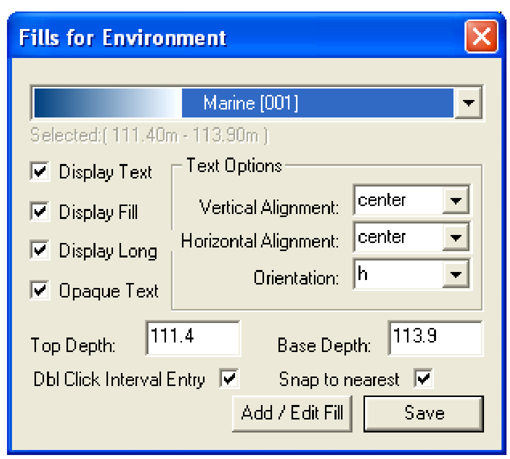


4. Make the necessary changes and click on the Save **button**. The Shortcut Options window will be shown.

5. **Select** Exit from the ensuing **Shortcut Options** window. This will clear the window and allow the user to edit a new record.

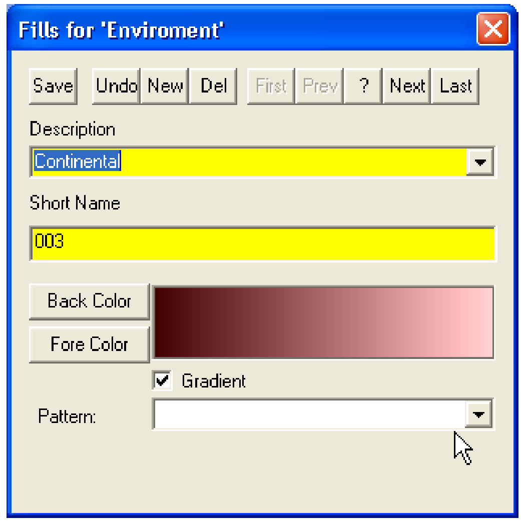
Deleting Generic Category Fill Types

1. **Double click** anywhere within the **Environment** track to activate the **Fills for Environment** window.

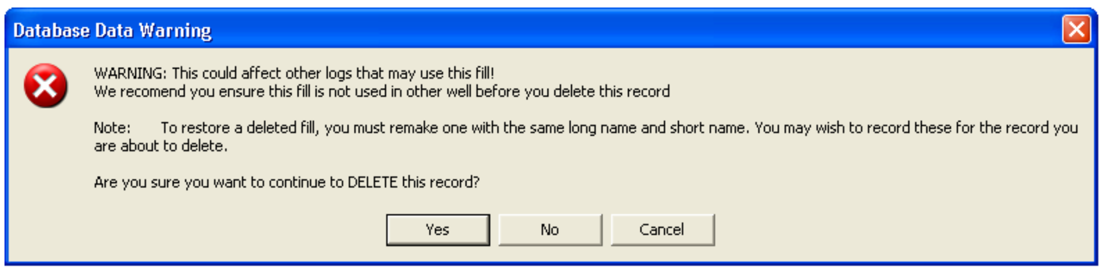


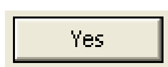
2. **Click** on the drop box arrow in the **Fills for Environment** window and select any of the environments from the resulting choice list that you would like to delete.

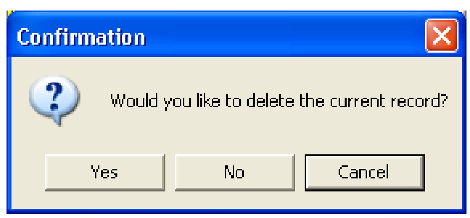
3. **Click** on the Add / Edit Fill **button**, and the **Fills for 'Environment'** window will be shown.

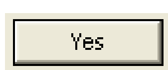


4. **Click** on the  **button**, and the **Warning** window will be activated.



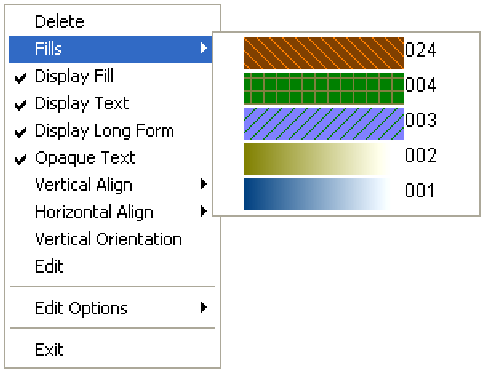
5. **Click** on the  **button**, and the **Confirmation** window will be activated

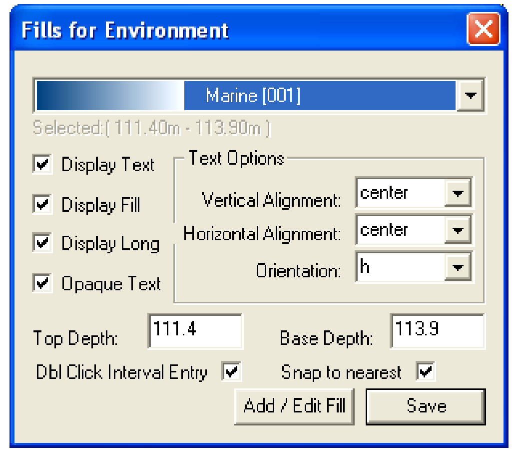


6. **Click** on the  **button**, and the **Environment** will be deleted.

Drawing Fill Types onto the Generic Category Fill Track…

1. **Double click** on the **Environment Track** to activate the window.
2. **Right click** on the **Environment Track** to activate the pop out window, **select fills** and **click** on the one of the available **fills**. Or **click** on the **field box arrow** and **select** one of the available **fills** that you would like to draw.





3. Define the desired interval by **clicking and dragging** the mouse pointer within the environment track. The environment interval will be drawn accordingly.

4. After selecting the fill type from step 2 the user can also type in the depths in the builder and then **click** on the Save **button**.

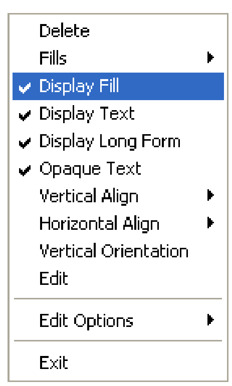
5. **Double Click** within an existing rock type interval in the Generic Fills layer with the Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the Fills window.

6. **Click and drag** the mouse on the track / layer close to an existing Fill (either above or below in the same column) with the Snap To Nearest activated and there will be no spaces between the fills. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Measured Depths can be viewed within the mouse pointer display box 1222.80 1224.80, situated to the right of the mouse pointer.
Also, while dragging the mouse, the user must start and stay within the confines of the track / layer they are working on. If you stray outside, the interval will start flickering and will not be drawn.

Modifying Fill Types

To modify the display on the track the user can right click on the fill and select one of these editing options.



Display Fill – Displays the color of the fill interval.

Display Text – Displays the name of the fill interval.

Display Long- Displays the long name of the fill interval. If unchecked, displays only the short name of the interval.

Opaque Text – Displays the white frame around the name of the fill interval for a better visibility.

Text Options - Allows the user to determine how they want the text to be aligned and oriented in the environment interval.

Resizing Fill Types

Mouse Pointer Method

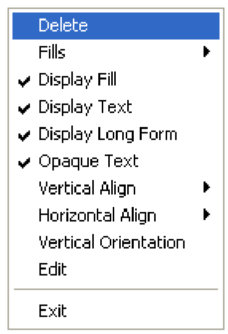
1. To resize an exiting fills **hold** your **Ctrl Key down** on your keypad and **move mouse pointer over the end part of the interval** until it turns into a double arrow .
2. **Click and drag** to a new depth. Remember you cannot overwrite existing intervals.

Keypad Method

1. **Click** on the **fill** to be resized so that it goes into the builder.
2. **Type** in the **new top or base depth** into the builder.
3. **Click** on the  **button**

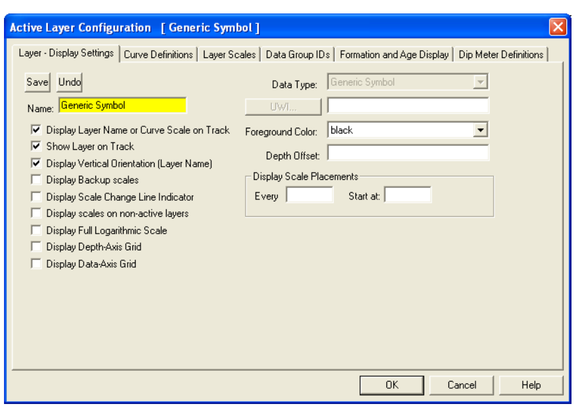
Deleting Fill Types

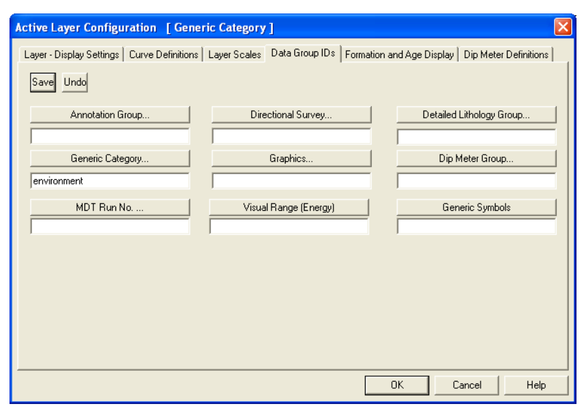
1. To **delete** an exiting interval **right click on the interval** and **select delete** from the pop out menu.



2. **Click** on the  **Close button** in the upper right hand corner of the builder. This will close down the Environment builder window.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Generic Category** are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Generic Category** layer is active.





Generic Symbol Layer / Track

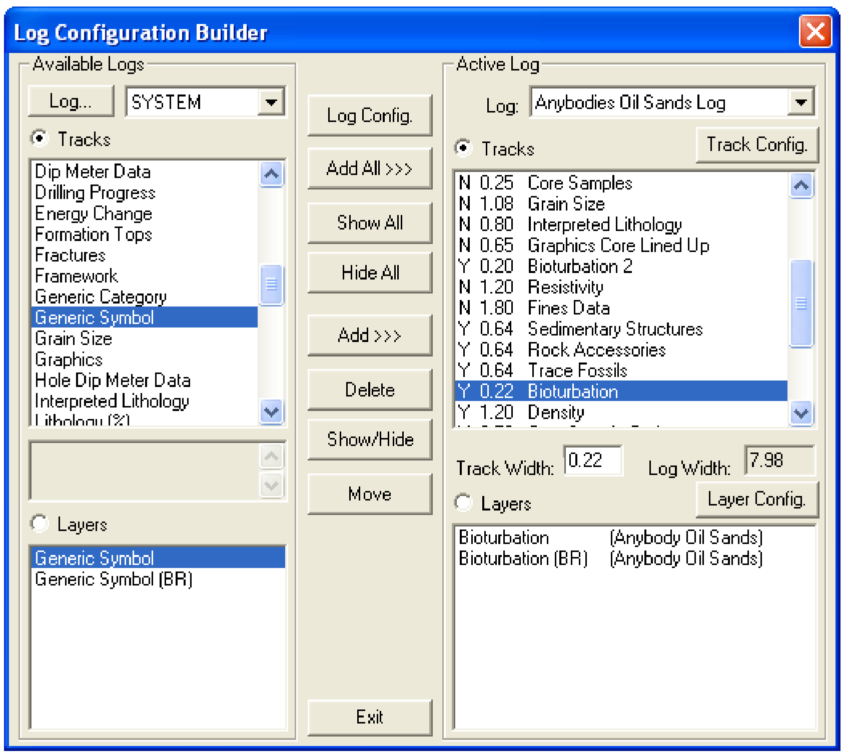
This layer allows you to add or delete **a Generic Symbol Category** that has not been offered in Version 10 in the Power*Core application. This will allow the user to create a set of user defined categories and subsequent symbols for a new category that can be represented by these symbols. There are two types of layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a diagenesis. The diagenesis is also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the diagenesis symbol may be also resized or deleted if the diagenesis interval coincides with the beds resized or deleted interval.

The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

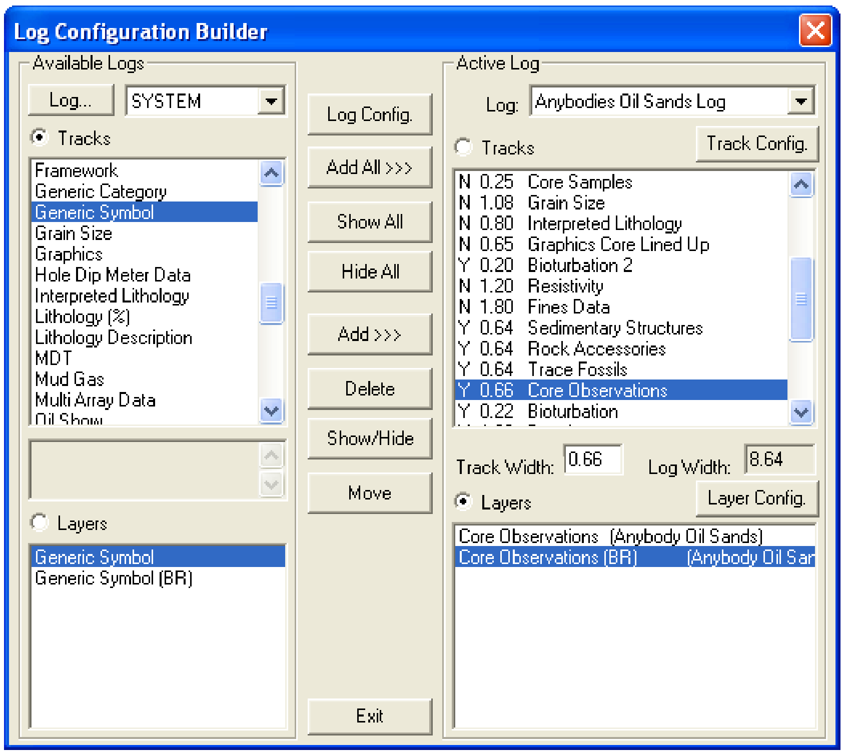
How to Add a Generic Symbol Track

1. **Click** on **Log Configuration Builder** under the **Options** menu selection or **click** on the  **Log Configuration Builder button** on the **Toolbar** to activate the Log Configuration Builder window:



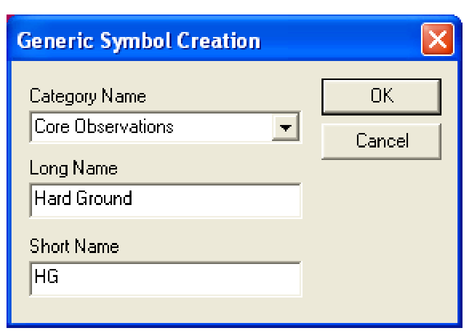
2. On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **Generic Symbol** track. The track will become highlighted and the **Tracks** radio button Tracks will become activated.
3. On the right hand side of the Log configuration window **click** on the Track you want it to go above or to the right of. In this example we will be adding the Generic Symbol track to the left of the Bioturbation. The track will become highlighted and the **Tracks** radio button Tracks will become activated.
4. In the middle of the Log configuration window **click** on the Add >>> **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
5. **Click** on the Yes **button.** This will activate a **Get Name** window allowing the user to name the track.

6. **Type in** a Track name (Generic Symbol) and then **click** on the OK **button.** The track will be added above the **Bioturbation** Track or to the left on the log, and the Log Configuration Builder window will be shown.

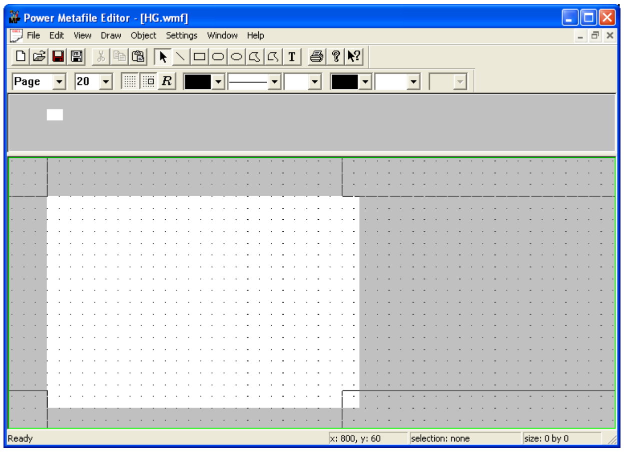


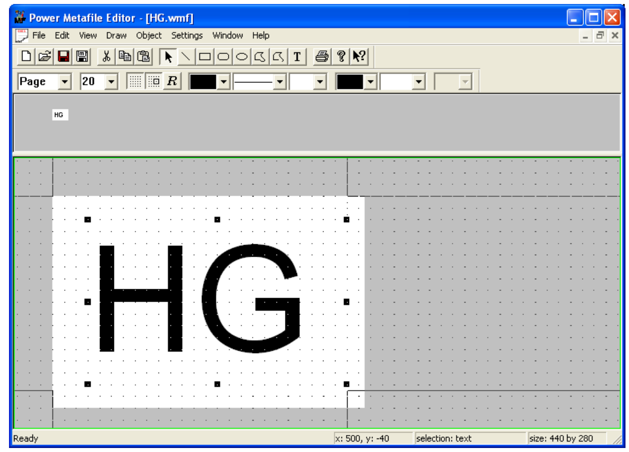
7. **Highlight** either the Category Name or the Category Name (BR) so that the Layers Radio button (Layers) is activated and **click** on the Delete **button** to delete one of these layers. You will probably not want to use both layers on the log.

8. **Click** on the Exit **button**. This will activate the **Log** with the new track and you will then prompted with adding a new Category and symbol for that category.



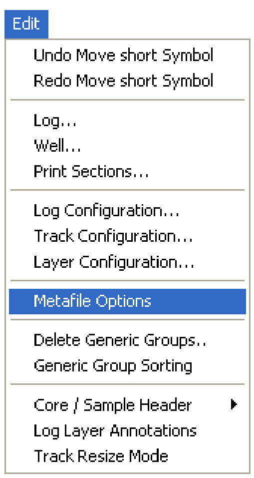
9. **Type** in the New **Category Name** you wish to create as well as the **Long** and **Short name** for a symbol to be added to this new category. **Click** on the OK **button**. This will activate the Metafile Editor for you to draw the symbol that you have just named.

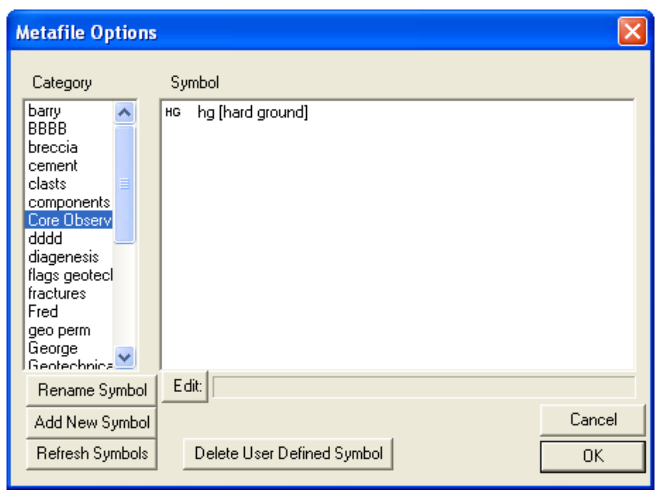




10. **Draw** your **symbol**. Please reference the Metafile Options selection under the Edit pull down menu to review how to draw you symbol. **Click** on the  **button** when you are finished. You have now added 1 symbol to the new symbol category.

11. If you would like to add more symbols to the category you will now have to **click** on the **Edit Menu** selection and **select Metafile options** and then **highlight the category** you have just added and then **select** the Add New Symbol **button** to add more symbols to your category.

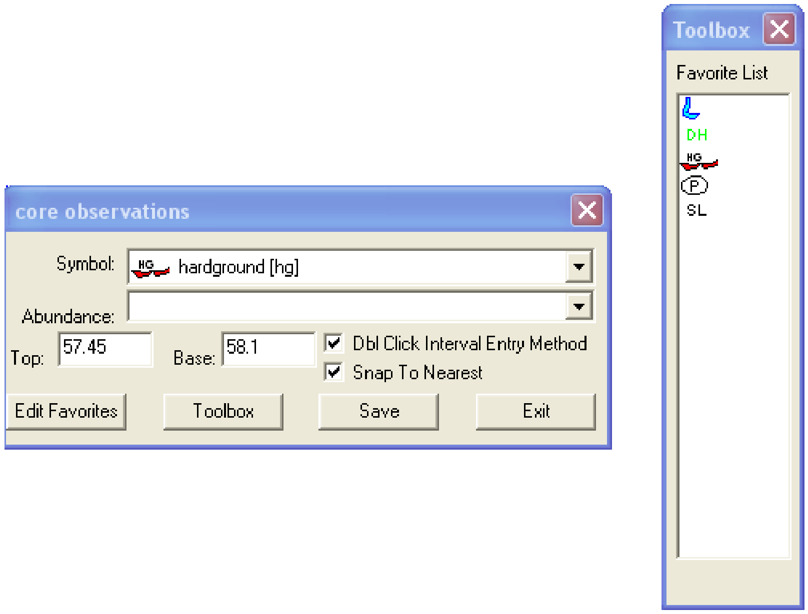




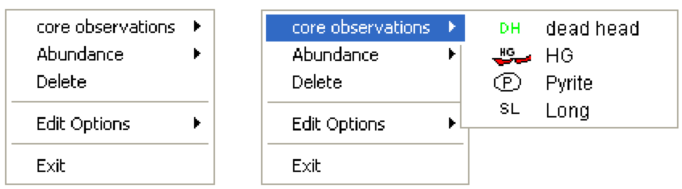
Drawing a Generic Symbol

<u>Note</u>: All bed restricted description categories, such as **Generic Symbol (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a diagenesis, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

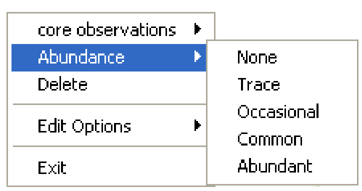
1. **Double click** on the **Generic Symbol track / layer** to activate the **Generic Symbol Builder** window and toolbox. The toolbox can be turned on or off by clicking on the Toolbox button in the builder.



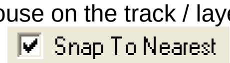
2. **Right click** anywhere on the Generic Symbol track / layer to activate the pop-up menu.
3. **Click** on the Generic Symbol (Core Observations) favorites list to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. If abundance is required, **right click** on the existing diagenesis, **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The Diagenesis interval will be drawn accordingly.
6. **Double Click** within an existing rock type interval in the Generic Symbol layer with the 

activated and the entire interval will be filled in with the attributes that have been entered into the Generic Symbol window.
7. **Click and drag** the mouse on the track / layer close to an existing Generic Symbol (either above or below in the same column) with the 

activated and there will be no spaces between the diagenesis. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.

Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **7** to add more Generic Symbol to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Generic Symbol Builder** window.

Resizing an Interval

1. **Double click** on the **Generic Symbol** track / layer to activate the **Generic Symbol Builder** window.

Mouse Pointer Method

2. **Click** on the **Symbol** you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕.
4. . **Release the mouse button** and the interval will be resized.

Keypad Method

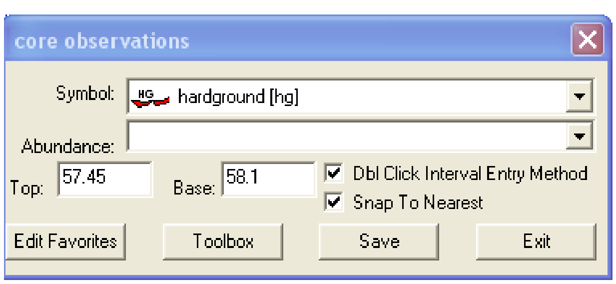
1. **Click once** on the Generic Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

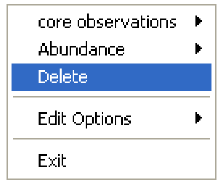
1. **Double click** on the **Generic Symbol** track / layer to activate the **Generic Symbol Builder** window.
2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a ✥ if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Generic Symbol** track / layer to activate the **Generic Symbol Builder** window.



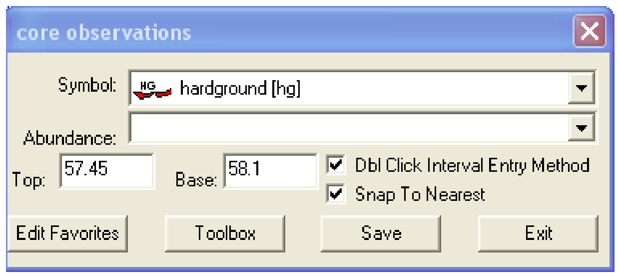
2. **Right click** anywhere within the interval you wish to delete to activate the pop-up menu.



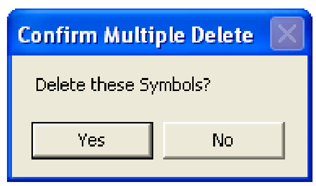
3. **Click** on **Delete** and the interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Generic Symbol** intervals from the **Generic Symbol** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Generic Symbol Builder** window.

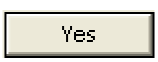
Deleting Multiple Intervals

1. **Double click** on the **Generic Symbol** track / layer to activate the **Generic Symbol Builder** window.

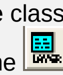


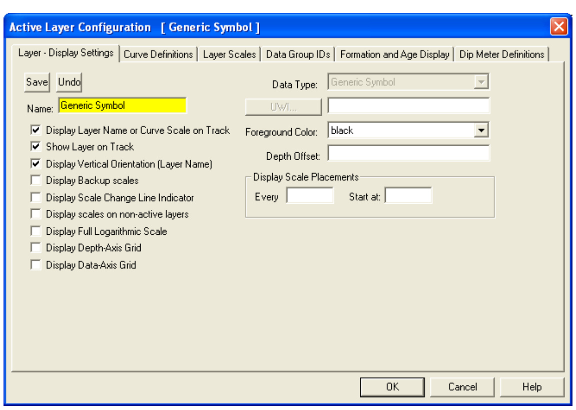
2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.

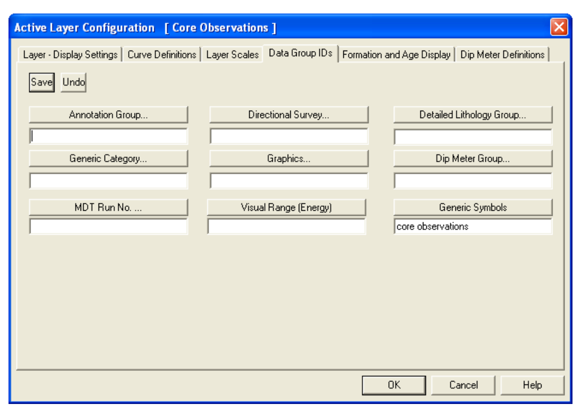


4. **Click** on 

button and the **Generic Symbol** intervals encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Generic Symbol Builder** window.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Generic Symbol** layer are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Generic Symbol** layer is active.





Grain Size Layer

This layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Grain Sizes for any given Interpreted Lithology (Rock) Interval.

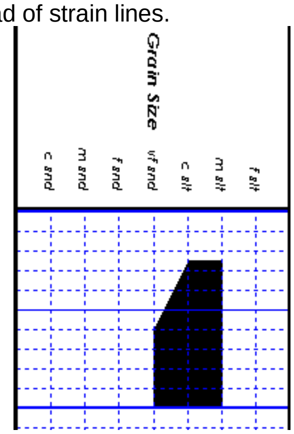
Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

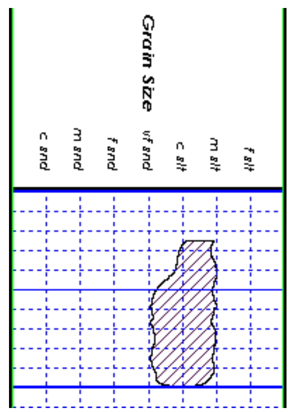
Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology ☑ Snap to closest lithology**:** When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

Soft Edges ☑ Soft Edges: When checked will round off the grain sizes and will present the grain size edges with sine wave lines instead of strain lines.

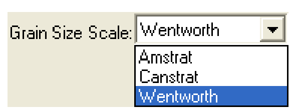


Grain Size No Pattern Hard edges



Grain Size Pattern Soft edges

How to Change the Grain Size Scale Type Wentworth to Canstrat or Amstrat

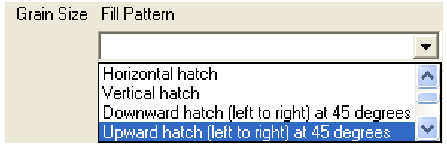
1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then select the corresponding 

from the list drop box. **Click** on the OK **button** after you have changed your selection.

How to Change the Grain Size Display from a Solid Color to a Hatching Pattern on your log.

This can only be represented with the Lithology Profile deactivated Lithology Profile ☐ in the System Options Display Tab dialogue window. This will also change all the grain size and matrix layers on all logs.

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**

3. Then **select** the **grain size pattern** 

from the **Fill pattern** list drop box.

4. Select the Foreground Color (Line Color) from the Pattern Color: ... selector ... button.

5. **Click** on the OK **button** after you have changed your selection.

6. You may also have to change the background color of the Grain size as well. To do this **click** on the **Grain Size** layer.

7. **Click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.

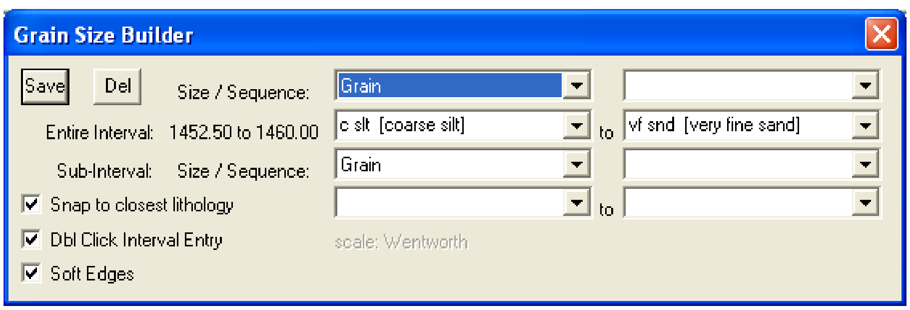
8. **Click** on the Foreground Color: black **drop box** and **select** (in this case a background color) for your grain size**.**

9. **Click** on the OK **button.**

Adding an Entire Interval

Note: All description categories, such as **Grain Size**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Grain Size**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window shown below:

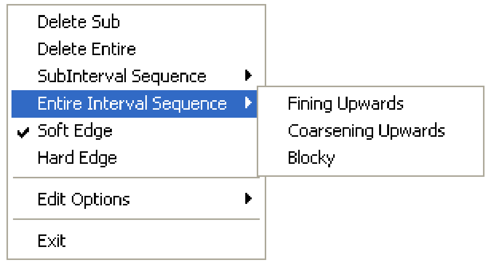


2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size**, , e.g. **1209.60 [c snd]** to **1204.00 [m snd]**, on the **Grain Size** track 1209.60 [c snd] 1204.00 [m snd]

3. **Release** the mouse button and the entire **Grain Size** interval will be drawn in purple accordingly.

Note: If you want to fill in the entire interval with only one grain size and not a range of grain sizes and you have the ☑ Dbl Click Interval Entry selected in the builder simply double click in the interval the grain size you wish to enter and it will fill in the entire interval with your selection.

4. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.

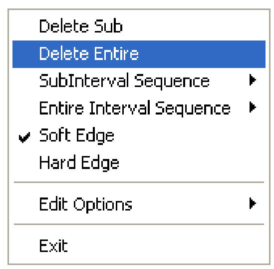


5. Repeat **Steps 2** - **4** to add more **Grain Sizes**.
6. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Note: If you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

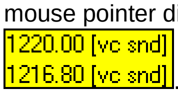
Deleting an Entire Interval

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window.
2. On the **Grain Size** layer, **right click** anywhere within the interval that you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Entire** and the **Grain Size** will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

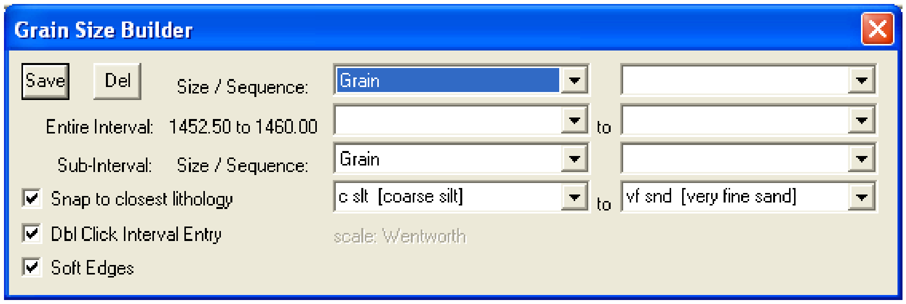
Adding a Sub-interval

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window.
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size** within an entire **Grain Size** interval 

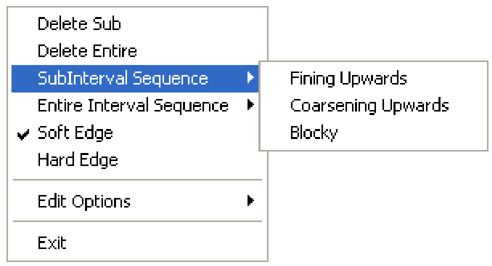
.

Note: You can drag the pointer to the left or right of the **Grain Size** track to more accurately describe your grain size range.

3. **Release** the mouse button and the **Grain Size** sub-interval will be drawn in green accordingly.



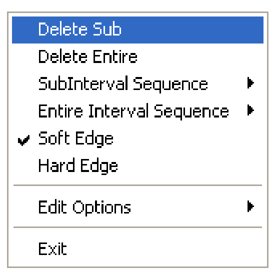
4. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **SubInterval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



5. Repeat **Steps 2** - **4** to add more **Grain Size** sub-intervals to the **Grain Size** track.
6. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Deleting a Sub-Interval

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window.
2. On the **Grain Size** layer, **right click** anywhere within the sub-interval (green interval) that you wish to delete to activate the pop-up menu shown below:



3. **Click** on **Delete Sub** and the **Grain Size** sub-interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Expanded Combined Canstrat / Wentworth Grain Sizes (Clastic/Crystalline Rocks):

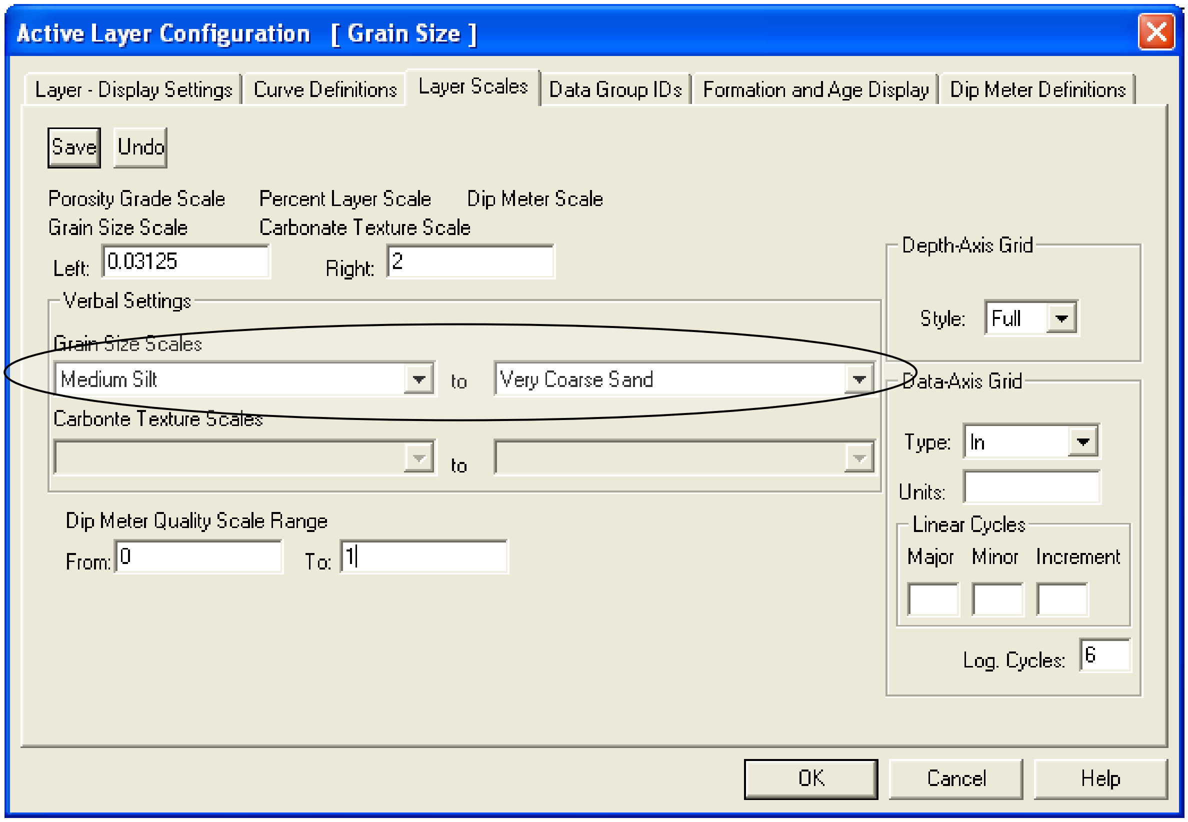
Clastic Name (Wentworth)	Clastic Name (Canstrat)	Crystalline Name	Size Range (mm) from	Size Range (mm) to	Phi
Lower Clay	Lower Clay Lower	Lower Crypto Lower	0.00098	0.00147	+10.0 to +9.5
	Lower Clay Upper	Lower Crypto Upper	0.00147	0.00195	+9.5 to +9.0
Upper Clay	Upper Clay Lower	Upper Crypto Lower	0.00195	0.00299	+9.0 to +8.5
	Upper Clay Upper	Upper Crypto Upper	0.00299	0.00391	+8.5 to +8.0
Very Fine Silt	Lower Very Fine Silt	Very Finely micro Upper	0.00391	0.00585	+8.0 to +7.5
	Upper Very Fine Silt	Very Finely micro Upper	0.00585	0.00782	+7.5 to +7.0
Fine Silt	Lower Fine Silt	Finely micro Lower	0.00782	0.01172	+7.0 to +6.5
	Upper Fine Silt	Finely micro Upper	0.01172	0.015625	+6.5 to +6.0
Medium Silt	Lower Medium Silt	Medium micro Lower	0.015625	0.0234375	+6.0 to +5.5
	Upper Medium Silt	Medium micro Upper	0.0234375	0.031250	+5.5 to +5.0
Coarse Silt	Lower Coarse Silt	Coarsely micro Lower	0.031250	0.037875	+5.0 to +4.5
	Upper Coarse Silt	Coarsely micro Upper	0.037875	0.06250	+4.5 to +4.0
Very Fine Sand	Very Fine Lower Sand	Very Finely Lower	0.06250	0.09375	+4.0 to +3.5
	Very Fine Upper Sand	Very Finely Upper	0.09375	0.12500	+3.5 to +3.0
Fine Sand	Fine Lower Sand	Finely Lower	0.12500	0.18750	+3.0 to +2.5
	Fine Upper Sand	Finely Upper	0.18750	0.25000	+2.5 to +2.0
Medium Sand	Medium Lower Sand	Medium Lower	0.25000	0.37500	+2.0 to +1.5
	Medium Upper Sand	Medium Upper	0.37500	0.50000	+1.5 to +1.0
Coarse Sand	Coarse Lower Sand	Coarsely Lower	0.50000	0.75000	+1.0 to +0.5
	Coarse Upper Sand	Coarsely Upper	0.75000	1.00000	+0.5 to +0.0
Very Coarse Sand	Very Coarse Lower Sand	Very Coarsely Lower	1.00000	1.50000	0.0 to -0.5
	Very Coarse Upper Sand	Very Coarsely Upper	1.50000	2.00000	-0.5 to -1.0
Granules	Granules Lower	Finely mega Lower	2.00000	3.00000	-1.0 to -1.5
	Granules Upper	Finely mega Upper	3.00000	4.00000	-1.5 to -2.0
Fine Pebbles	Fine Pebbles Lower	Coarsely mega Lower	4.00000	6.00000	-2.0 to -2.5
	Fine Pebbles Upper	Coarsely mega Upper	6.00000	8.00000	-2.5 to -3.0
Medium Pebbles	Medium Pebbles Lower		8.00000	12.00000	-3.0 to -3.5
	Medium Pebbles Upper		12.00000	16.00000	-3.5 to -4.0
Coarse Pebbles	Coarse Pebbles Lower		16.00000	24.00000	-4.0 to -4.5
	Coarse Pebbles Upper		24.00000	32.00000	-4.5 to -5.0
Very Coarse Pebbles	Very Coarse Pebbles Lower		32.00000	48.00000	-5.0 to -5.5
	Very Coarse Pebbles Upper		48.00000	64.00000	-5.5 to -6.0
Lower Cobbles	Lower Cobbles Lower		64.00000	96.00000	-6.0 to -6.5
	Lower Cobbles Upper		96.00000	128.00000	-6.5 to -7.0
Upper Cobbles	Upper Cobbles Lower		128.00000	192.00000	-7.0 to -7.5
	Upper Cobbles Upper		192.00000	256.00000	-7.5 to -8.0
Lower Boulders	Lower Boulders Lower		256.00000	384.00000	-8.0 to -8.5
	Lower Boulders Upper		384.00000	512.00000	-8.5 to -9.0
Upper Boulders	Upper Boulders Lower		512.0000	768.0000	-9.0 to -9.5
	Upper Boulders Upper		768.00000	1024.00000	-9.5 to -10.0

Changing the Grain Size Scale

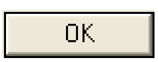
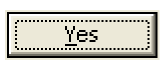
Grain Size scale can be changed through the **Layer Configuration** window.

1. **Click** on the  **Layer Configuration button** on the **Toolbar**, when the **Grain Size or Grain Size Matrix** layer is active. This will activate the **Layer Configuration** window tab dialogue window

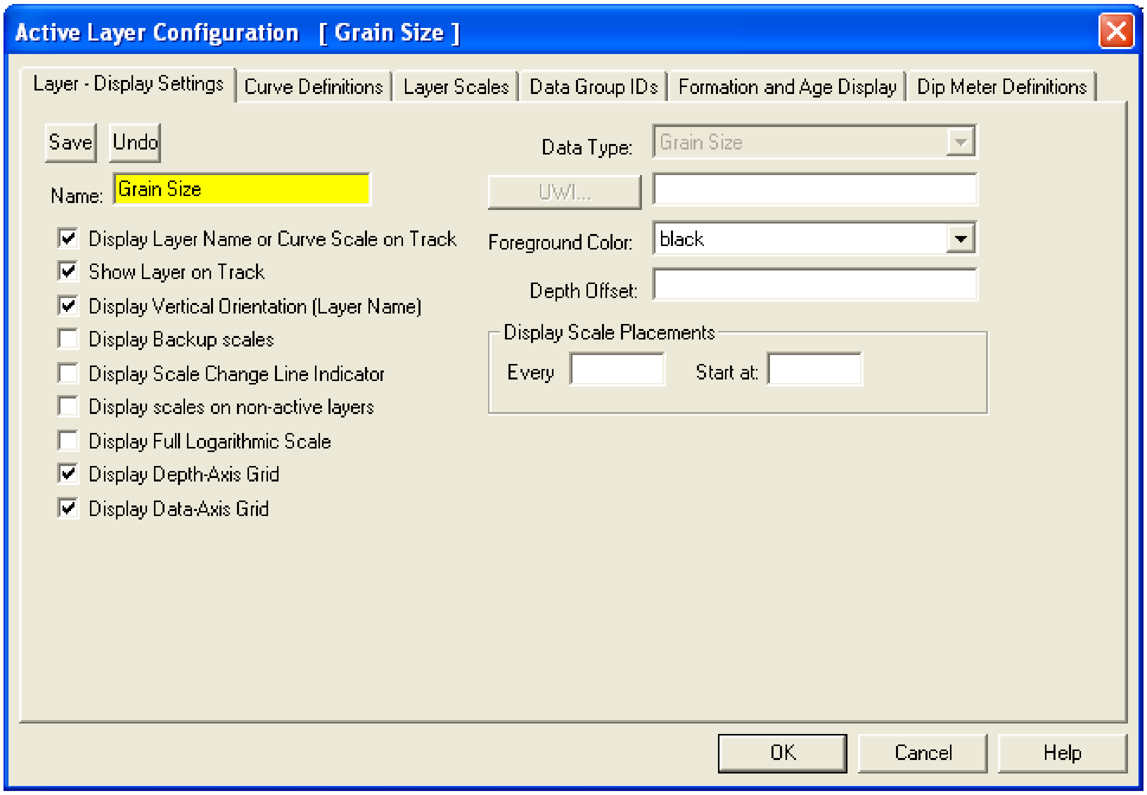
2. **Click** on the **Layer Scales** tab shown below.



3. **Select** the left and right grain size scales from the Grain Size Scale drop boxes.

4. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Grain Size** layer.



Grain Size Matrix Layer

This layer allows the user to log two grain sizes (bimodal grain size) at the same depth. The layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Grain Sizes for any given Interpreted Lithology (Rock) Interval.

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology ☑ Snap to closest lithology: When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

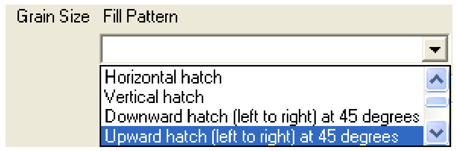
Soft Edges ☑ Soft Edges: When checked will round off the grain sizes and will present the grain size edges with sine wave lines instead of strain lines.

If the user has the Grain Size Matrix layer added to the Grain Size track, the user should verify that the Lithology Profile ☐ check box ☐ is not activated. To do so, **click** on **System Options** under the **Options** menu selection and deactivate this check box ☐. **Click** on the OK **button**.

Note: If the Grain Size track contains two headings that overlap, **click** on **Layer Configuration** under the **Options** menu selection and **uncheck** the ☑ Display Layer Name or Curve Scale on Track check box ☐. Then **click** on the OK **button**.

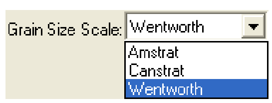
How to Change the Grain Matrix Display from a Solid Color to a Hatching Pattern on your log.

This can only be represented with the Lithology Profile deactivated Lithology Profile in the System Options Display Tab dialogue window. This will also change all the grain size and matrix layers on all logs.

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then **select** the **grain size pattern** 

from the **Fill pattern** list drop box.
4. Select the Foreground Color (Line Color) from the Pattern Color: ... selector ... button.
5. **Click** on the OK **button** after you have changed your selection.
6. You may also have to change the background color of the Grain size as well. To do this **click** on the **Grain Size** layer.
7. **Click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.
8. **Click** on the Foreground Color: black **drop box** and **select** (in this case a background color) for your grain size**.**
9. **Click** on the OK **button.**

How to Change the Grain Matrix Scale Type (Wentworth, Canstrat or Amstrat)

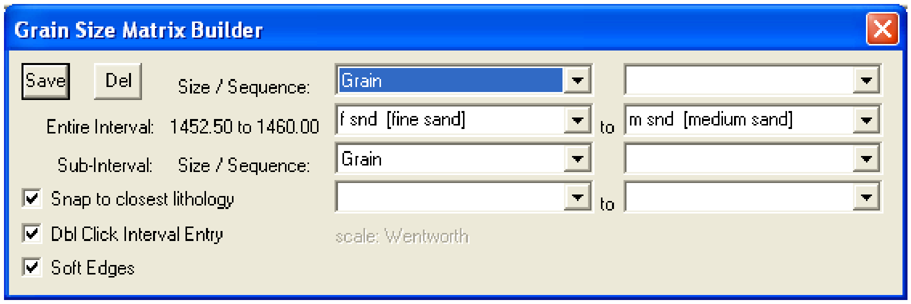
1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then select the corresponding 

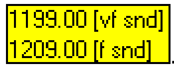
from the list drop box. **Click** on the OK **button** after you have changed your selection.

Adding an Entire Interval

<u>Note</u>: All description categories, such as **Grain Size Matrix**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Grain Size Matrix**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window shown below:



3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size**, e.g. **1199.00 [vf snd]** to **1209.00 [f snd]**, on the **Grain Size** track 

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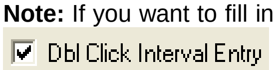
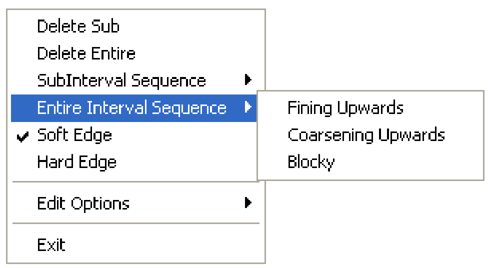
4. **Release** the mouse button and the entire **Grain Size Matrix** interval will be drawn in purple accordingly.

Note: If you want to fill in the entire interval with only one grain size and not a range of grain sizes and you have the 

selected in the builder simply double click in the interval the grain size you wish to enter and it will fill in the entire interval with your selection.

5. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The grain size matrix appearance will be redrawn to reflect the newly selected criteria.



6. Repeat **Steps 2** - **4** to add more **Grain Size Matrixes.**

Note: The intervals that belong to the active layer are purple. The non active layers data are black, e.g. the intervals within the Grain Size Matrix layer are purple while the intervals within the Grain Size layer are black.

Also, if you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

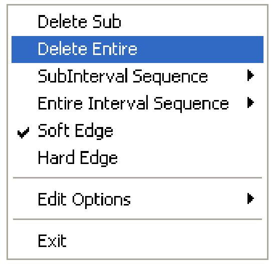
7. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Deleting an Entire Interval

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field

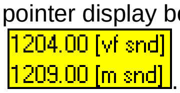
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window.

3. On the **Grain Size Matrix** layer, **right click** anywhere within the interval that you wish to delete to activate the pop-up menu.



4. **Click** on **Delete Entire** and the **Grain Size Matrix** will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Grain Size Matrix Builder** window.

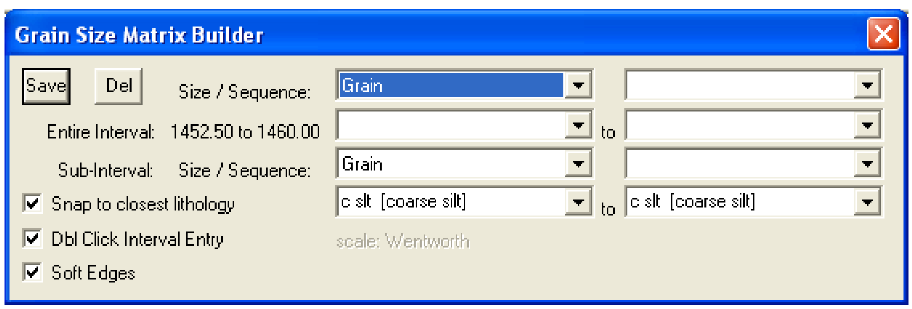
Adding a Sub-interval

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field.
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window.
3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size** within an entire **Grain Size Matrix** interval 

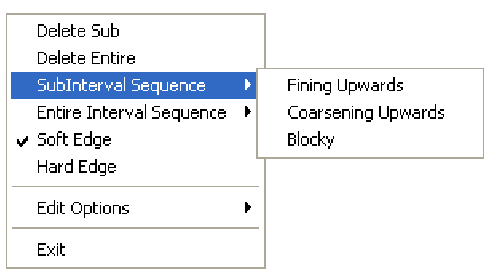
.

Note: You can drag the pointer to the left or right of the **Grain Size** track to more accurately describe your grain size range.

4. **Release** the mouse button and the **Grain Size Matrix** sub-interval will be drawn in green accordingly.



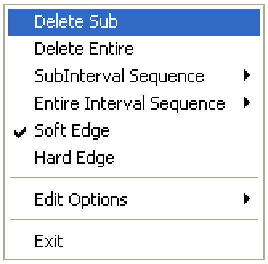
5. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **Subinterval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



6. Repeat **Steps 2** - **4** to add more **Grain Size Matrix** sub-intervals to the **Grain Size** track.
7. Press the **Esc** key on the keyboard to exit from the **Grain Size Matrix Builder** window.

Deleting a Sub-Interval

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field.
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window.
3. On the **Grain Size Matrix** layer, **right click** anywhere within the sub-interval that you wish to delete to activate the pop-up menu shown below:



4. **Click** on **Delete Sub** and the **Grain Size Matrix** sub-interval will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Grain Size Matrix Builder** window.

Expanded Combined Canstrat / Wentworth Grain Sizes (Clastic/Crystalline Rocks):

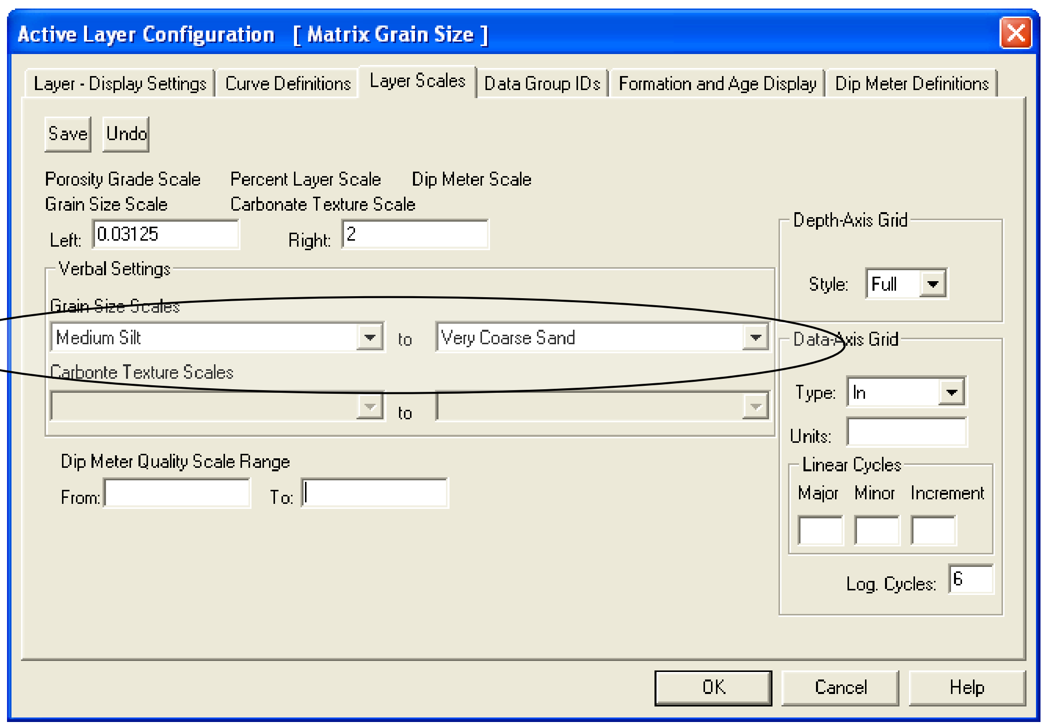
Clastic Name (Wentworth)	Clastic Name (Canstrat)	Crystalline Name	Size Range (mm) from	Size Range (mm) to	Phi
Lower Clay	Lower Clay Lower	Lower Crypto Lower	0.00098	0.00147	+10.0 to +9.5
	Lower Clay Upper	Lower Crypto Upper	0.00147	0.00195	+9.5 to +9.0
Upper Clay	Upper Clay Lower	Upper Crypto Lower	0.00195	0.00299	+9.0 to +8.5
	Upper Clay Upper	Upper Crypto Upper	0.00299	0.00391	+8.5 to +8.0
Very Fine Silt	Lower Very Fine Silt	Very Finely micro Upper	0.00391	0.00585	+8.0 to +7.5
	Upper Very Fine Silt	Very Finely micro Upper	0.00585	0.00782	+7.5 to +7.0
Fine Silt	Lower Fine Silt	Finely micro Lower	0.00782	0.01172	+7.0 to +6.5
	Upper Fine Silt	Finely micro Upper	0.01172	0.015625	+6.5 to +6.0
Medium Silt	Lower Medium Silt	Medium micro Lower	0.015625	0.0234375	+6.0 to +5.5
	Upper Medium Silt	Medium micro Upper	0.0234375	0.031250	+5.5 to +5.0
Coarse Silt	Lower Coarse Silt	Coarsely micro Lower	0.031250	0.037875	+5.0 to +4.5
	Upper Coarse Silt	Coarsely micro Upper	0.037875	0.06250	+4.5 to +4.0
Very Fine Sand	Very Fine Lower Sand	Very Finely Lower	0.06250	0.09375	+4.0 to +3.5
	Very Fine Upper Sand	Very Finely Upper	0.09375	0.12500	+3.5 to +3.0
Fine Sand	Fine Lower Sand	Finely Lower	0.12500	0.18750	+3.0 to +2.5
	Fine Upper Sand	Finely Upper	0.18750	0.25000	+2.5 to +2.0
Medium Sand	Medium Lower Sand	Medium Lower	0.25000	0.37500	+2.0 to +1.5
	Medium Upper Sand	Medium Upper	0.37500	0.50000	+1.5 to +1.0
Coarse Sand	Coarse Lower Sand	Coarsely Lower	0.50000	0.75000	+1.0 to +0.5
	Coarse Upper Sand	Coarsely Upper	0.75000	1.00000	+0.5 to +0.0
Very Coarse Sand	Very Coarse Lower Sand	Very Coarsely Lower	1.00000	1.50000	0.0 to -0.5
	Very Coarse Upper Sand	Very Coarsely Upper	1.50000	2.00000	-0.5 to -1.0
Granules	Granules Lower	Finely mega Lower	2.00000	3.00000	-1.0 to -1.5
	Granules Upper	Finely mega Upper	3.00000	4.00000	-1.5 to -2.0
Fine Pebbles	Fine Pebbles Lower	Coarsely mega Lower	4.00000	6.00000	-2.0 to -2.5
	Fine Pebbles Upper	Coarsely mega Upper	6.00000	8.00000	-2.5 to -3.0
Medium Pebbles	Medium Pebbles Lower		8.00000	12.00000	-3.0 to -3.5
	Medium Pebbles Upper		12.00000	16.00000	-3.5 to -4.0
Coarse Pebbles	Coarse Pebbles Lower		16.00000	24.00000	-4.0 to -4.5
	Coarse Pebbles Upper		24.00000	32.00000	-4.5 to -5.0
Very Coarse Pebbles	Very Coarse Pebbles Lower		32.00000	48.00000	-5.0 to -5.5

	Very Coarse Pebbles Upper		48.00000	64.00000	-5.5 to -6.0
Lower Cobbles	Lower Cobbles Lower		64.00000	96.00000	-6.0 to -6.5
	Lower Cobbles Upper		96.00000	128.00000	-6.5 to -7.0
Upper Cobbles	Upper Cobbles Lower		128.00000	192.00000	-7.0 to -7.5
	Upper Cobbles Upper		192.00000	256.00000	-7.5 to -8.0
Lower Boulders	Lower Boulders Lower		256.00000	384.00000	-8.0 to -8.5
	Lower Boulders Upper		384.00000	512.00000	-8.5 to -9.0
Upper Boulders	Upper Boulders Lower		512.0000	768.0000	-9.0 to -9.5
	Upper Boulders Upper		768.00000	1024.00000	-9.5 to -10.0

Changing the Grain Size Matrix Scale

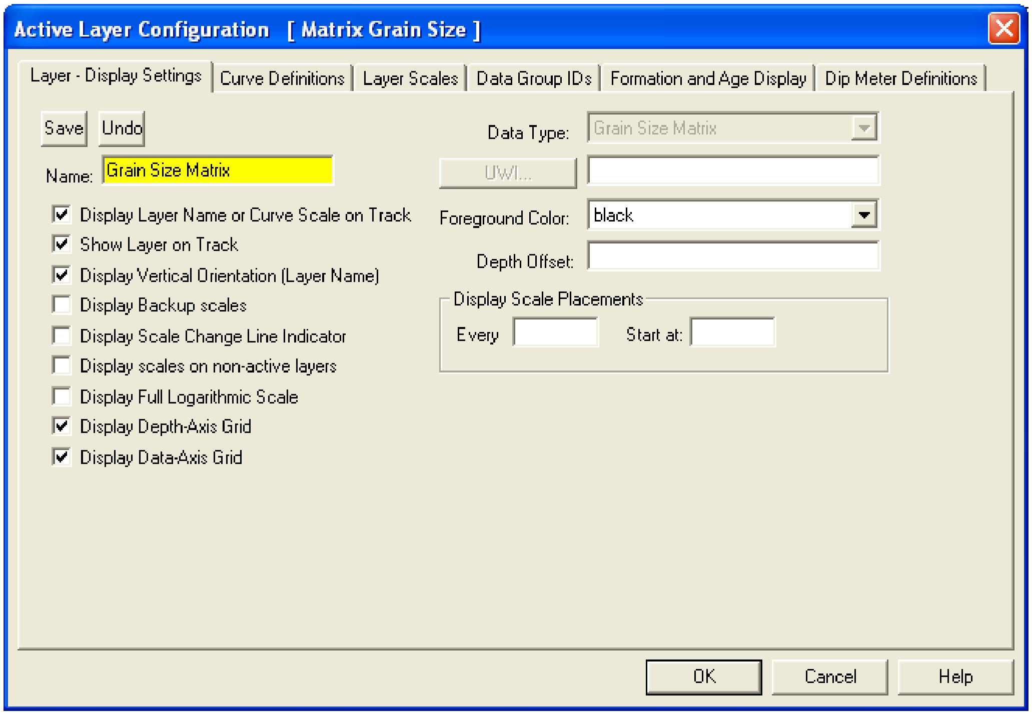
Grain Size scale can be changed through the **Layer Configuration** window.

1. **Click** on the  **Layer Configuration button** on the **Toolbar**, when the **Grain Size or Grain Size Matrix** layer is active. This will activate the **Layer Configuration** window tab dialogue window
2. **Click** on the **Layer Scales** tab.



3. **Select** the left and right grain size scales from the Grain Size Scale drop boxes.
4. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Grain Size Matrix** layer.

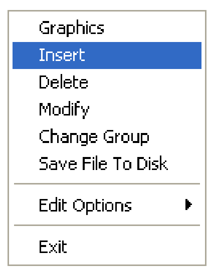


Graphics Layer

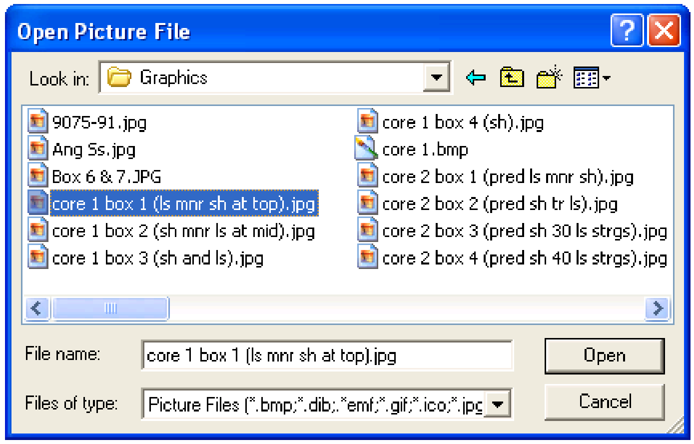
This layer allows you to add or delete graphics in our Power*Log, Power*Core and Power*Curve applications. These graphics can be sized, resized and locked with respect to depth (top and bottom) at any log or print scale.

Adding a Graphic or Picture to a Log

1. **Right click** on the **Graphics** track / layer at the depth where you want the top of the picture. This will activate the pop-up menu. The user can also **double click on the Graphics track** and proceed to step 3.

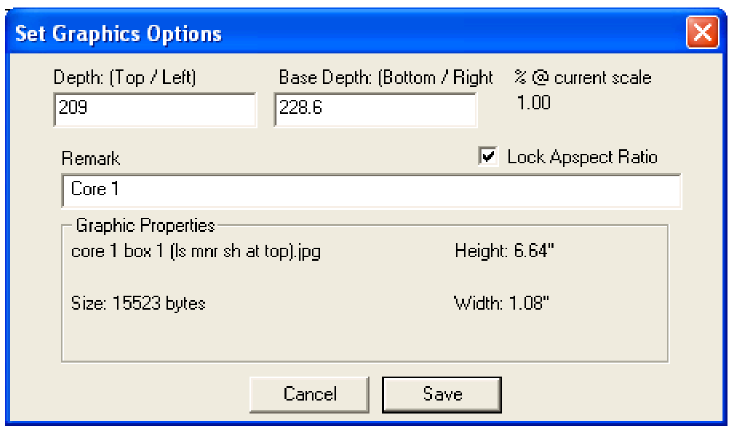


2. **Click** on **Insert selection** to activate the **Open Picture File** window shown below.



3. Navigate through the hard drive folders, or other drives and locate the picture file you want to insert by **double clicking on the filename** or by **highlighting the filename** and **click** on the Open **button**. This will activate the **Set Graphics Options** window.

<u>Note</u>: Power*Suite is able to utilize most windows compatible picture or graphic files.



<u>Depth</u> field has been filled in with the depth that the mouse was right clicked at. This depth can be modified at any time.

<u>Base Depth</u> field defaults to the base depth of the selected picture or graphics file at a Scale % of 100%. The user can modify the Base Depth to change the Scale %.

<u>% @ Current Scale</u> display defaults to 100% of the original pictures' size. This Scale % is modified when the base depth of the picture is modified.

<u>Remark</u> field can be filled in with any comment you wish to view with the picture. This comment will move with the scale modifications made in Base Depth fields.

<u>Lock Aspect Ratio</u> check box ☑ defaults to checked. The **Lock Aspect** check box ☑ when checked does not allow any distortion of the pictures width. If the picture is smaller or larger than the track width it will display undistorted and will either be smaller than the track width or larger than the track width. If the locked aspect is unchecked then the picture will distort to allow the left and right margins to fill in the entire track width.

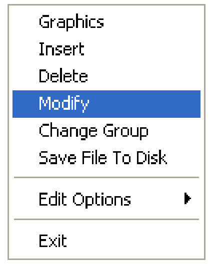
<u>Graphic Properties</u> represents the size of the file and the actual screen size in inches.

4. Change, fill in or modify the above Graphic Options windows fields to your specifications then **click** on the Save **button**.

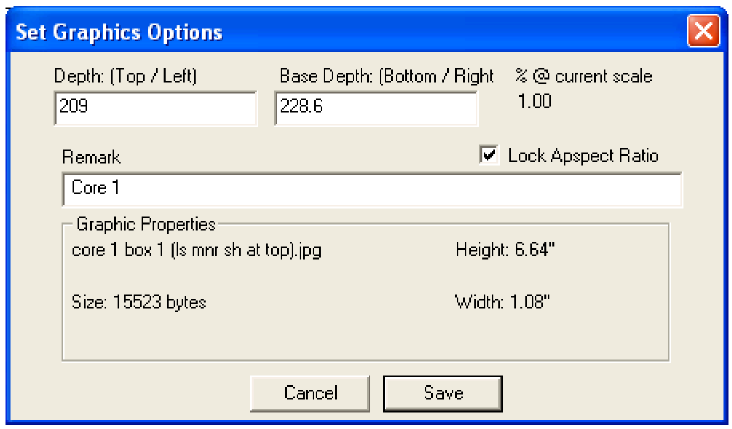
5. Repeat **Steps 1** - **4** to add more graphics to the track / layer.

Modifying a Picture or Graphic

1. **Right click** on the **Graphics** or picture that you wish to modify. This will activate the pop-up menu. Or double click on the picture and proceed to step 3.



2. **Click** on **Modify selection** to activate the Set Graphics Options window.



Depth field has been filled in with the depth that the mouse was right clicked at. This depth can be modified at any time.

Base Depth field defaults to the base depth of the selected picture or graphics file at a Scale % of 100%. The user can modify the Base Depth. This change will reflect in the Scale %.

Remark field can be filled in with any comment you wish to view with the picture. This comment will move with the scale modifications made in either the Scale % or Base Depth fields.

Lock Aspect Ratio check box ☑ defaults to checked. The **Lock Aspect Ratio** check box ☑ when checked does not allow any distortion of the pictures width. If the picture is smaller or larger than the track width it will display undistorted and will either be smaller than the track width or larger than the track width. If the locked aspect is unchecked then the picture will distort to allow the left and right margins to fill in the entire track width.

Graphic Properties represents the size of the file and the actual screen size in inches.

3. Change, fill in or modify the above Graphic Options window fields to your specifications then **click** on the Save **button**.

4. Repeat **Steps 1** - **3** to modify more graphics on the track / layer.

Moving a Graphic

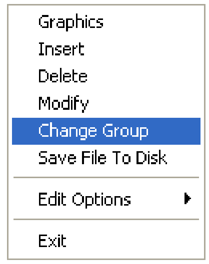
The user has the ability to move a picture around within the confines of the layer if the **Lock Aspect Ratio** check box ☑ has been activated. Otherwise the picture will take up the entire width of the track and there would be no need to move the picture.

1. **Make the Graphics layer active** by **clicking on the track** that holds the graphics layer and **selecting** the **graphics layer** from the layer selection pull down menu in the selection bar.
2. **Click on the graphic and drag** left or right (Power*Log / Core) or up or down (Power*Curve) and **release the mouse button** the picture will be redrawn at the new position.

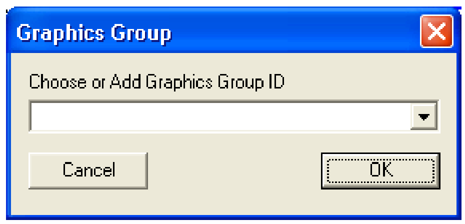
Note: The measure depth relationship of the graphic will not be adjusted in this manner. Just the position with respect to the layer/track edges can be adjusted. If you wish to change the top depth of the graphic you must change it in the builder itself.

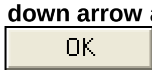
Changing a Group

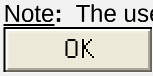
1. **Right click** on the **Graphics** track. This will activate the pop-up menu.



2. **Click** on **Change Group** to activate the Graphics Groups window.

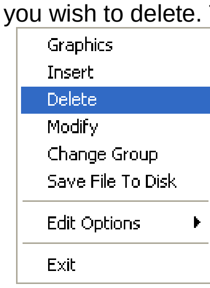


3. **Click** on the **drop down arrow** and choose an existing group of graphics that you want to be shown on the track. Then **click** on the  **button**.

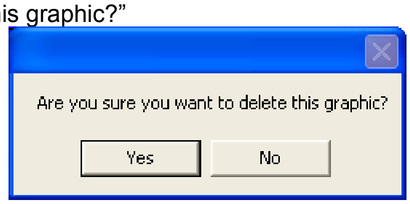
Note: The user can also add a new graphics group by typing a new graphics group id and clicking on the  button. The track will become blank and the user can insert new pictures that will belong to the graphics group that has just been created.

Deleting a Picture or Graphic

1. **Right click** on the **Graphics** or picture that you wish to delete. This will activate a pop-up menu.



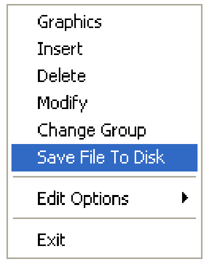
2. **Click** on **Delete selection** to delete the Graphics / Picture. This will activate a message window asking the user "Are you sure you want to delete this graphic?"



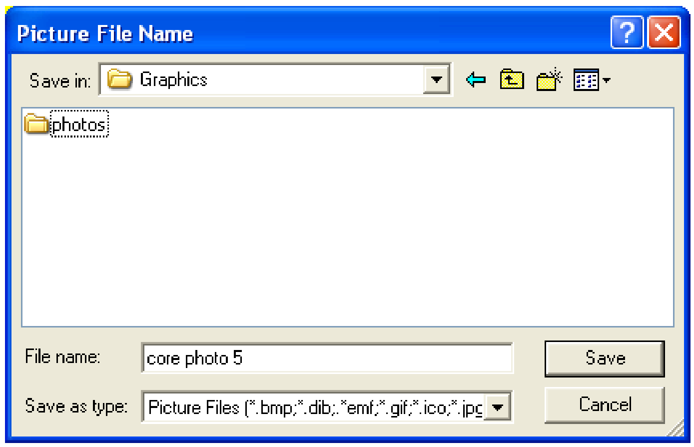
3. **Click** on the  **button**.

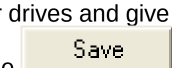
Saving an Existing Graphic or Picture to a file.

1. **Right click** on the **Graphics** track / layer on the picture you wish to save. This will activate the pop-up menu.



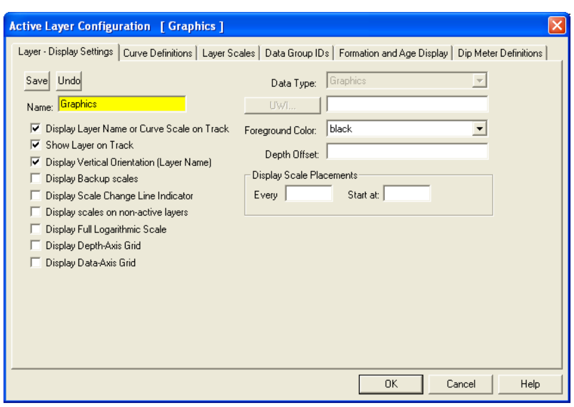
2. **Click** on **Save File to Disk selection** to activate the **Picture File Name** window shown below.

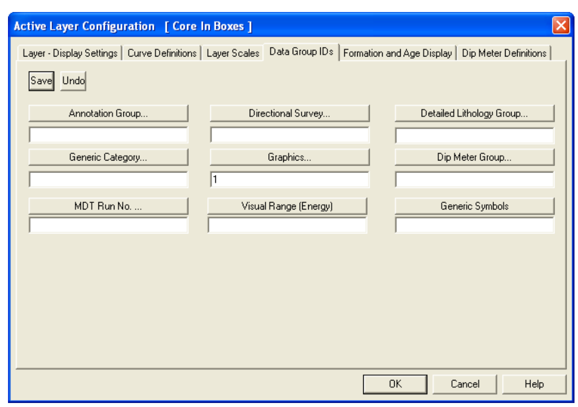


3. Navigate through the hard drive folders, or other drives and give the picture a file name so that you can find it later to open with another application **click** on the 

button. This will activate the **Set Graphics Options** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Graphics** are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Graphics** layer is active.

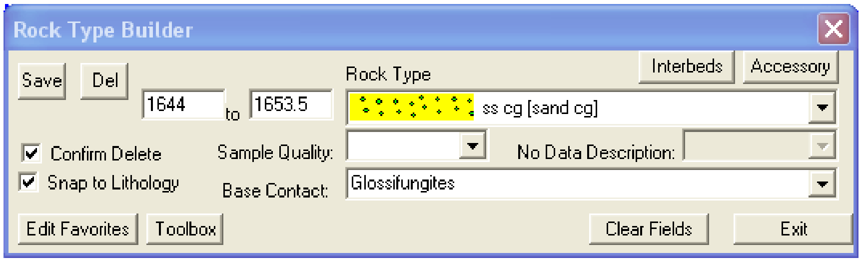




Interpreted Lithology Layer - Rock Type Builder

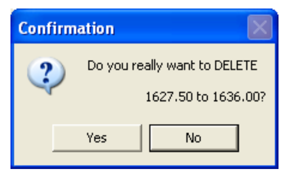
This window will allow you to draft on the Interpreted Lithology Layer. The user can utilize the accessory builder. The user may also define the basal contact if they have the Power*Core Module. We have revised this layer with respect to resizing a bed or interval. We have also added the Interbedding options to the builder.

Overview of Rock type builder window



Save Button The user can enter the depths into the two depth fields with either a rock type or no data fields filled in and then **click** on the Save **button**. Their interval will now be drawn on the Interpretive Lithology Track.

Del Button: The user can click on an existing interpretive lithology interval and the corresponding data will be shown in the builder. The user can then **click** on the Del **button** to delete the interval.



Confirm Delete: This Check box when activated will prompt the user with a Confirmation window Do you really want to delete? If this Confirm Delete is unchecked the Lithology Interval will be deleted without any system message.

Snap to Lithology This check box when activated will not allow spaces between beds on the Interpretive Lithology Layer when you are using the mouse (not the keypad) when entering Lithology Intervals. This function utilizes the Mouse / Screen Pointer Accuracy on the Selection bar and it you are within 10 times the accuracy the Interval will snap to the lithology already drawn on your log.

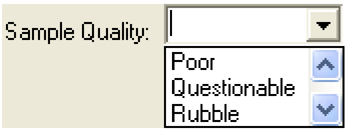
Edit Favorites This button allows the user to get to the **System Options Favorites Tab**. The user would go into the Rock Favorites make their changes and then **click** on the OK **button** in the System Options window.

Toolbox This button allows the user to Turn on or off the Toolbox.

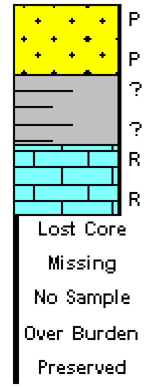
Interbeds Once a Lithology interval has been defined or selected and can be viewed in the builder the user can **click** on Interbeds **button** to activate the Interbeds builder.

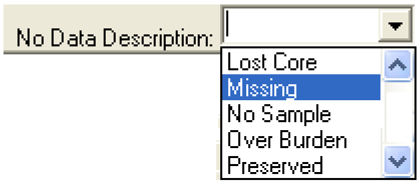
Accessory This button allows the user to switch to the Accessory builder so they can add accessories to the Rock type intervals they have defined in the Rock type builder.

The from and to fields are entered manually through the key board or can be activated through a mouse drag. The rock type drop box will have all the rock types that are in the system.



The **Sample quality** further defines the lithology interval with one of the three qualities such as Questionable, Poor or Rubble core / sample quality symbols as shown on the right.





The **No Data Description** selection allows the user to define a Lithology interval on the log with one of the no data descriptions as shown on the right.

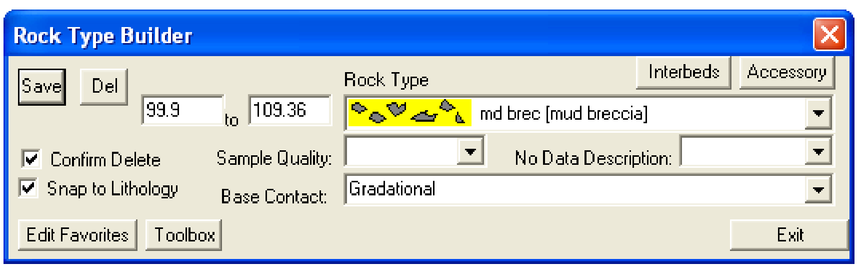
Once a Lithology interval has been defined or selected and can be viewed in the builder the user can **click** drop box and add a basal contact.

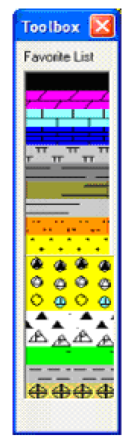
This button will clear all the fields in the Rock Type builder. The user can then start fresh.

This button will close down the Rock Type builder

Drafting an Interpreted Lithology Interval

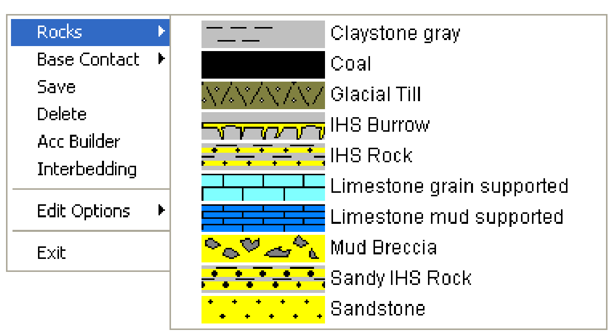
1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.





2. **Select a rock type.** There are 4 ways to select a rock type, some faster than others.

- The user can **click** on the desired **Rock Type** from the Favorites Toolbox shown to the right.
- The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu shown below. Then select by **clicking once** on the desired **Rock Type** from the pop-up menu.
- The user can select a **Rock Type** from the **Rock Type** field within the **Rock Type Builder** window, if the desired **Rock Type** is <u>not</u> displayed in the pop-up menu or Toolbox.
- The user can also **click** on a **previously drawn lithology** that is the same as you wish to draw with. If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Rock Type Builder** window.



Note: The graphical images utilized in the pop-up menu represent specific **Rock Types** that can be edited by clicking on the Edit Favorites button by the user in the **System Options** window (See the **System Options** section).

3. The user can then select either a questionable interpretation or a poor sample quality from the Sample quality pull down menu.

Note: Once activated it must be deactivated by selecting the blank selection from the list.

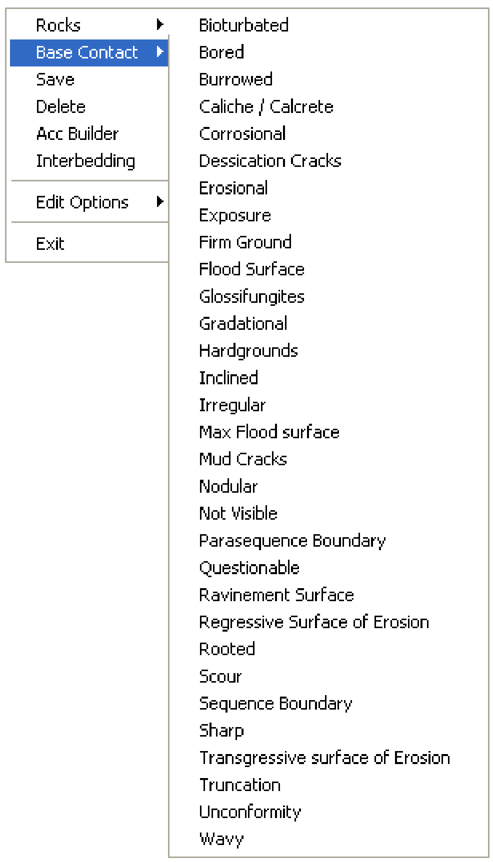
4. **Click and drag** up or down within a specific track to define the lithology interval. **Or**, If there is a rock type defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in with the No data or Rock type selected.

Note: This can be done on any track but more often than not the Interpretive Lithology Track is the most convenient. With the ☑ Snap to Lithology activated the lithology being drawn will snap to the previous lithology either above or below depending on your drag if you are within 10 times the mouse pointer or screen accuracy of the already drawn lithology.

5. **Release** the mouse button and the interval will be drawn accordingly.

Base Contacts

1. The user can now define the base contact type by right clicking on the drawn interpretive lithology interval and selecting the desired basal contact type from the ensuing pop out menu.

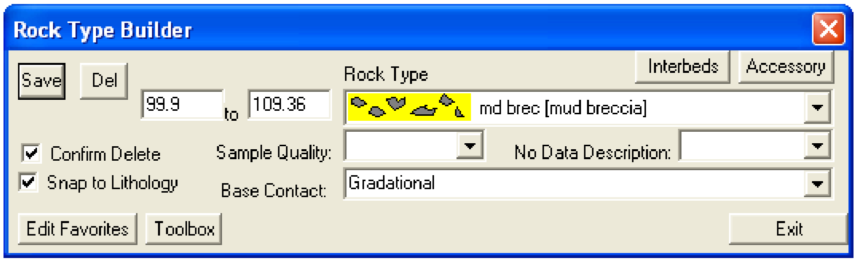


2. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window. The basal contacts will be displayed on the interpreted lithology layer, the grain size and carbonate texture layers, as well at the bedding contacts layer.

Note: The Toolbox can be activated or deactivated by clicking on the Toolbox **button**.

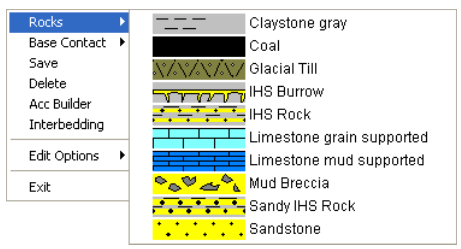
Drafting an Interpreted Lithology Interval with Interbedding.

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.

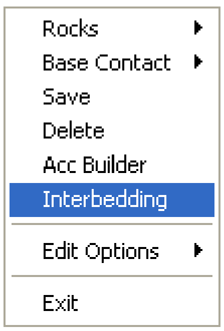


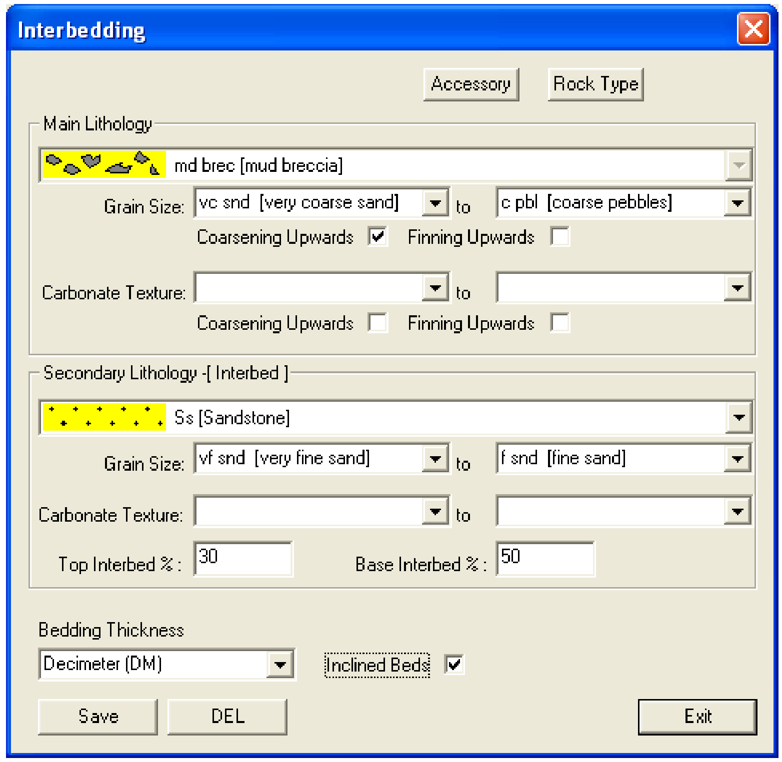
2. **Select a rock type.** There are 4 ways to select a rock type, some faster than others.

   - The user can **click** on the desired **Rock Type** from the Favorites Toolbox shown to the right.
   - The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu shown below. Then select by **clicking once** on the desired **Rock Type** from the pop-up menu.
   - The user can select a **Rock Type** from the **Rock Type** field within the **Rock Type Builder** window, if the desired **Rock Type** is not displayed in the pop-up menu or Toolbox.
   - The user can also **click** on a **previously drawn lithology** that is the same as you wish to draw with. If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Rock Type Builder** window.



3. **Click and drag** up or down within a specific track to define the lithology interval.
4. **Release** the mouse button and the interval will be drawn accordingly. . **Or**, If there is a rock type defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in with the No data or Rock type selected.
5. **Right Click** on the drawn **lithology** and **select Interbedding** from the pop out menu as shown below or **Click** on the **lithology** and **Click** on the Interbeds **button** in the Rock Type Builder. This will activate the Interbed window also shown below.





1. **Select** the Main Lithology **Grain Size or Carbonate Texture** from and to from their respective drop boxes. If the Grain Size or Carbonate Texture is already filled in you can change it here or leave it as is.
2. In the Main Lithology section **select Coarsening** or **Fining Upwards** check boxes if you wish.
3. **Select** the **Secondary Lithology** (Interbed) from the **drop box**.
4. Fill in the Secondary Lithology Grain Size **or** Carbonate Texture from and to from their respective drop boxes if you wish.
5. Fill in the **Percentage** of Interbeds at the top of the interval and the base of the interval by typing in their respective percentages.
6. **Select** a bedding thickness from the **Bedding Thickness drop box**.
7. **Select** if the interbeds are inclined or not from the check box.
8. **Click** on the Save **button**
9. The user can now go back to the Rock type builder by **clicking** on the Rock Type **button**. Also the user can go to the accessory builder by **clicking** on the Accessory **button**. Or the user can exit the builder altogether by **clicking** on the Exit **button**.
10. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

How to Draw with an already drawn Interbedded Interval

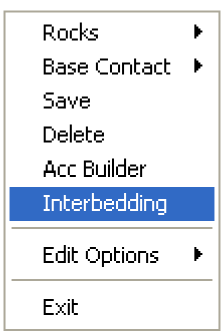
1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.
2. **Click on an already drawn Interbedded Interval.**
3. **Click and drag** up or down within a specific track to define a new interbedded lithology interval.

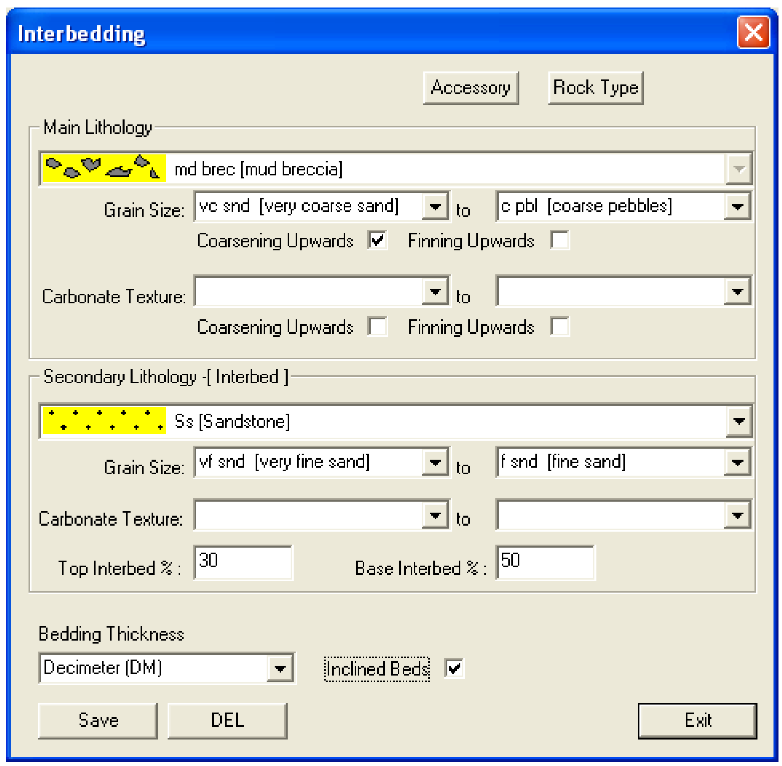
4. **Release** the mouse button and the interval will be drawn accordingly. . **Or**, If there is a rock type defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in with the No data or Rock type selected.
5. **If you wish to change some of the attributes Right Click** on the drawn **lithology** and **select Interbedding** from the pop out menu or **Click** on the **lithology** and **Click** on the Interbeds **button** in the Rock Type Builder.

Deleting an Interpreted Lithology Interval with Interbedding.

The following procedure will delete the Interbedding only. If you wish to delete the entire lithology delete the Lithology from the Rock type builder.

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.
2. **Right Click** on the drawn **lithology** and **select Interbedding** from the pop out menu as shown below or **Click** on the **lithology** and **Click** on the Interbeds **button** in the Rock Type Builder. This will activate the Interbed window also shown below.

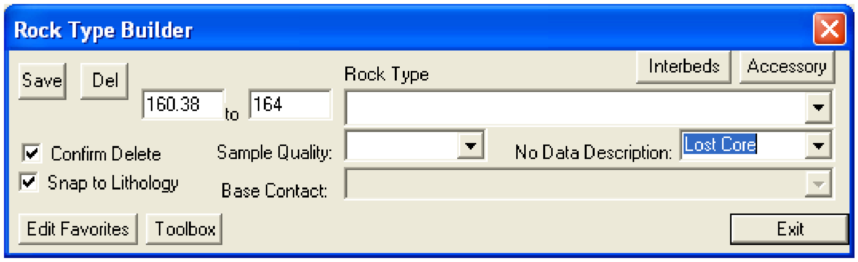




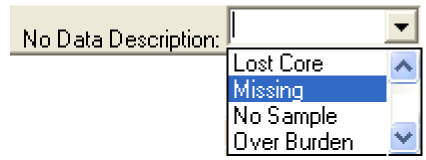
3. **Click** on the DEL **button**
4. The user can now go back to the Rock type builder by clicking on the Rock Type button. Also the user can go to the accessory builder by clicking on the Accessory button. Or the user can exit the builder altogether by clicking on the Exit button.
5. Press the **Esc** key on the keyboard to exit from the **Interbedding** window.

Drafting an Interpreted Lithology Interval with No Data

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window shown below as well as your Favorites List Toolbox.



2. **Select** one of the **No Data Descriptions** from the drop box**.**



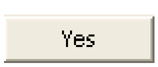
3. **Click and drag** the mouse button up or down within a specific track to define the **No Data** interval. **Or**, If there is a rock type defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in with the No data or Rock type selected.
4. **Release** the mouse button, and the interval will be drawn accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Inserting Thin beds

You are able to insert thinner beds of a different **Rock Type** into an existing bed. This prevents you from having to re-enter the properties of the main bed above and beneath the inserted thinner bed. The **Rock Accessories** (**Thin beds**, **Components**, **Matrix** and **Cement**) are the only properties that are not retained from the existing bed.

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window previously shown as well as your Favorites List Toolbox.
2. **Select a rock type.** There are 4 ways to select a rock type.
    - The user can **click** on the desired **Rock Type** from the Favorites Toolbox.
    - The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu shown below. Then select by **left clicking once** on the desired **Rock Type** from the pop-up menu.
    - The user can select a **Rock Type** from the **Rock Type** field within the **Rock Type Builder** window, if the desired **Rock Type** is <u>not</u> displayed in the pop-up menu or Toolbox.
    - The user can also **click** on a **previously drawn lithology** that is the same as you wish to draw with.
3. If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Rock Type Builder** window.
4. **Click and drag** the mouse button up or down within a specific track to define the **Lithology** interval.

<u>Note</u>: This can be done on any track but more often than not the Interpretive Lithology Track is the most convenient.

5. **Release** the mouse button, and you will be prompted with a message asking, "***Do you want to add an interbedded interval?***"
6. **Click** on the  **button** and the thinner bed will be drawn accordingly.
7. The user can now define the base contact type by **right clicking on the drawn interpretive lithology interval** and **selecting the desired basal contact type.**
8. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Resizing an Existing Rock Type or Bed

1. **Double click** on the **Interpreted Lithology** track to activate the **Rock Type Builder** window.

2. **Press and hold** the **Ctrl key** on the keyboard **down**, while moving the mouse pointer over the lithology bed boundary you wish to resize, the mouse pointer will turn into a resize ↕, (remember if two beds are touching to look into the builder to see if you have the correct one selected)
3. **Clicking and dragging** the **left** mouse button up or down the **Interpreted Lithology** track to either shrink or enlarge the selected interval.

<u>Note</u>: You are not allowed to overlap an existing bed (lithology) <u>entirely</u> and if you attempt to do so, you will receive an **"*Unsupported Add Sequence*"** system message.

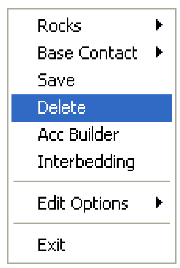
4. **Release** the mouse button at the desired depth, followed by the release of the **Ctrl** key on the keyboard, and the following system message will be activated, "***Do you really want to RESIZE the interval from _ to _ ?***"

<u>Note</u>: Resizing a **Rock Type** will result in a resizing its associated bed restricted description category information, i.e. **Grain Size**, **Porosity Grade**, and so on.

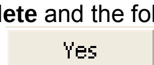
5. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Deleting an Existing Rock Type or Bed

1. **Double click** on the **Interpreted Lithology** track to activate the **Rock Type Builder** window.
2. **Right click** anywhere within the **Interpreted Lithology** track to activate the pop-up menu.



3. **Click** on **Delete** and the following system message will be activated, "***Do you really want to DELETE _ to _ ?***"

Click on the 

button to confirm the deletion.

<u>Note</u>: When you delete a **Rock Type**, you will also delete its associated bed restricted rock description information, i.e. **Grain Size**, **Porosity Grade**, **Type**, **Oil Show** and all other bed restricted data.

4. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Interpreted Lithology Layer - Rock Accessory Builder

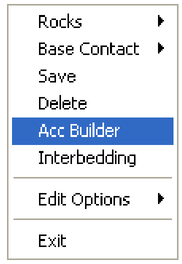
Detailed Lithology Rock Accessory Build <u>here</u>

The Rock Accessory Builder allows you to add accessories to a Rock Type in the Interpretive Lithology layer.

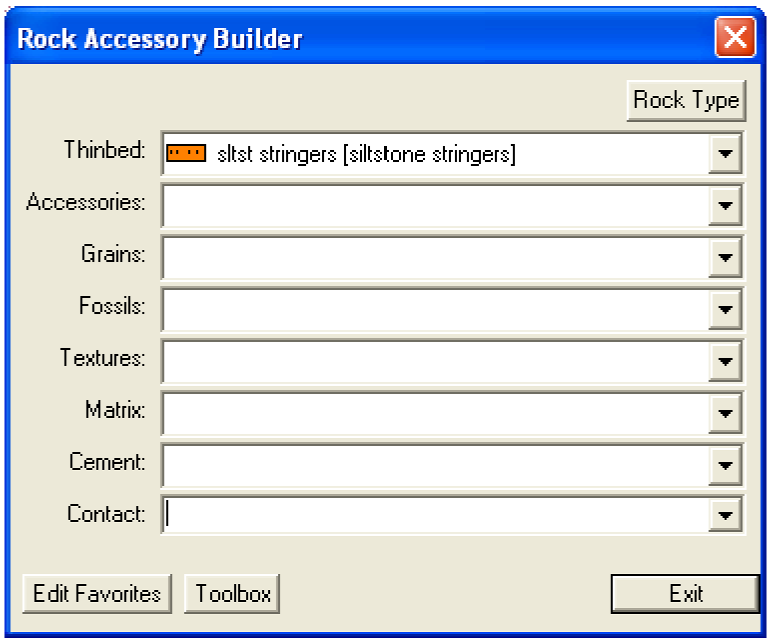
Drawing Accessories

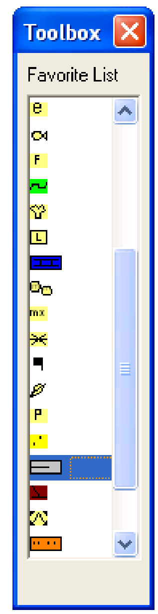
1. **Double click** anywhere within the **Interpretive Lithology** layer to activate the **Rock Type Builder.**
2. **Right click** anywhere within the **Interpretive Lithology** layer to activate the pop-up menu shown below, or **click** on the 

button in the **Rock Type Builder** window:



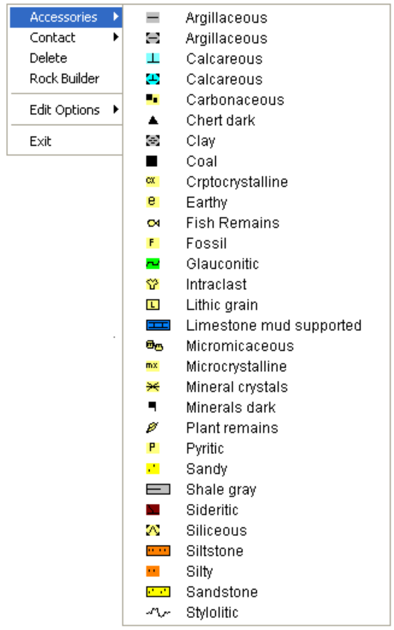
3. Select **Acc Builder** selection from the pop-up menu to activate the **Rock Accessory Builder** window and the **Accessory Favorites List Toolbox**.





4. **Select an Accessory.** There are 3 ways to select an accessory, some faster than others.

- The user can **click** on the desired **Accessory Symbol** from the Favorites Toolbox.
- The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-out menu. Then **select accessories** to initiate the favorite's list pop out menu and **click** on the desired **Accessory Symbol** from the pop-out menu.
- The user can **select** an **Accessory Symbol** from the appropriate **Accessory Type** fields within the **Accessory Type Builder** window, if the desired **Accessory Type** is not displayed in the favorite's list pop-up menu or Toolbox.



<u>Note</u>: The user can get easily to the first letter of the Accessory they wish to select by clicking once in the appropriate field in the Rock Accessory builder to highlight a selection and then typing in the first letter of the component they wish to choose. This will refresh the list with the first letter and then the user can scroll through the selection until they see their selection and **click** to select.

5. **Click** anywhere within the **Interpretive Lithology** track to insert the selected **Accessory**.

The Toolbox can be activated or deactivated by **clicking** on the 

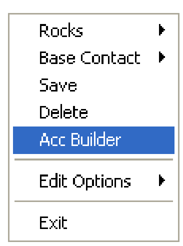
button within the Rock Accessory Builder Window.

Drawing an Internal Bedding Contact

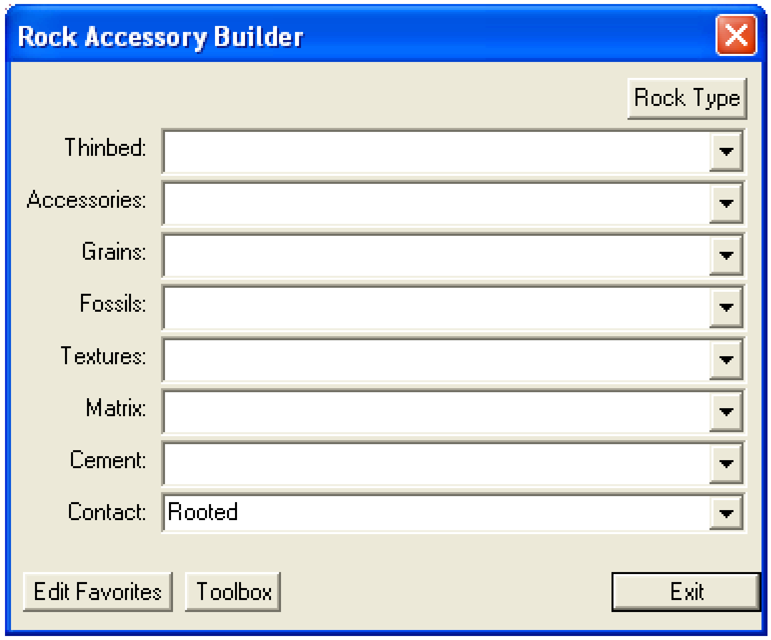
This selection is only available to the users who have the Power*Core Module

1. **Double click** anywhere within the **Interpretive Lithology** layer to activate the **Rock Type Builder.**
2. **Right click** anywhere within the **Interpretive Lithology** layer to activate the pop-up menu shown below, or **click** on the 

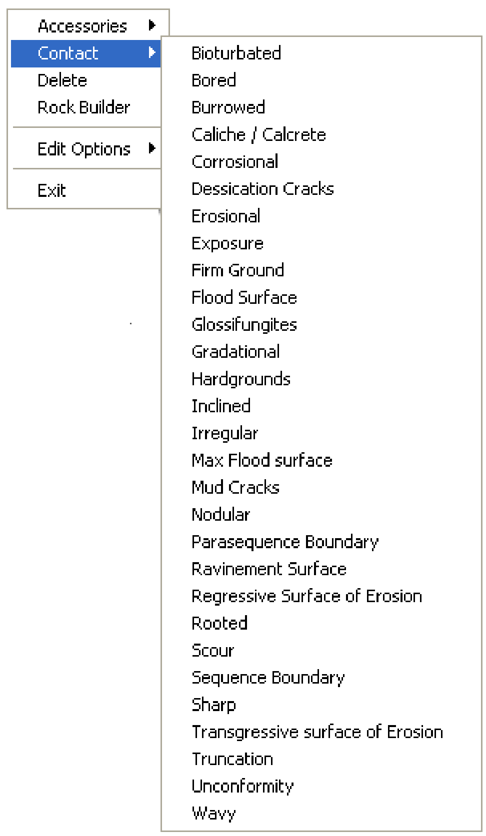
button in the **Rock Type Builder** window:



3. **Click** on the **Acc Builder selection** from the pop-up menu to activate the **Rock Accessory Builder** window and the **Accessory Favorites List Toolbox**.
4. The user has 2 ways to choose an internal bedding contact.
    - The user can **select** a **Contact Symbol** from the **Contact Type** fields within the **Accessory Type Builder** window.



- **Right click** anywhere within the **Interpretive Lithology** track to activate the pop- out menu. Then **click** on the **Contact** selection to initiate the pop out menu and **click** on the desired **Internal Contact** from the pop-out menu.



5. **Click** anywhere within the **Interpretive Lithology** track to insert the selected **Accessory**.

Moving a Thinbed, Components, Internal Contact, Matrix, or Cement

1. With the **Rock Accessory Builder** window activated **click and drag** the **Accessory symbol** you wish to move and drag the red box to the new location.
2. **Release the mouse button** and the accessory or internal contact will be redrawn at the position.

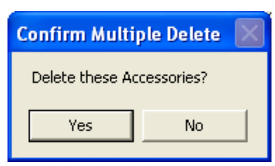
Deleting a single Thinbed, Components, Internal Contact, Matrix, or Cement

1. With the **Rock Accessory Builder** window activated **right click** (in the upper right corner) of the **Accessory** symbol you wish to delete and the pop-out menu will be activated.

2. **Click** on the **Delete** selection from the pop-out menu and the selected **Accessory** symbol will be deleted.
3. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Builder** window.

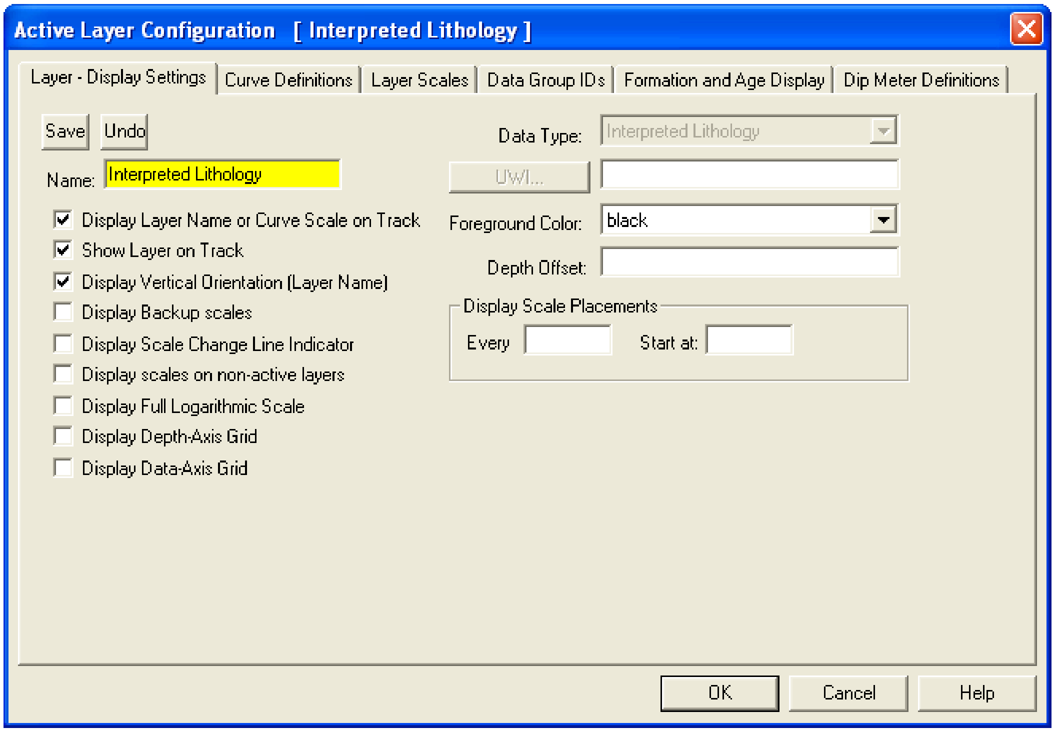
Deleting Multiple Thin beds, Components, Internal Contacts, Matrix, or Cements

1. With the **Rock Accessory Builder** window activated **Press and Hold the SHIFT Key** and then **click and drag an area** where the symbols are that you want to delete.
2. **Release** the **mouse button** and this will activate a message.



3. **Click** on the Yes button. The accessories that were covered by your drag will be deleted.

<u>Note</u>: Every type of layer in **Power*Log/Curve** has a **Data Type** classification. The default settings for the **Interpreted Lithology** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Interpreted Lithology** layer is active.

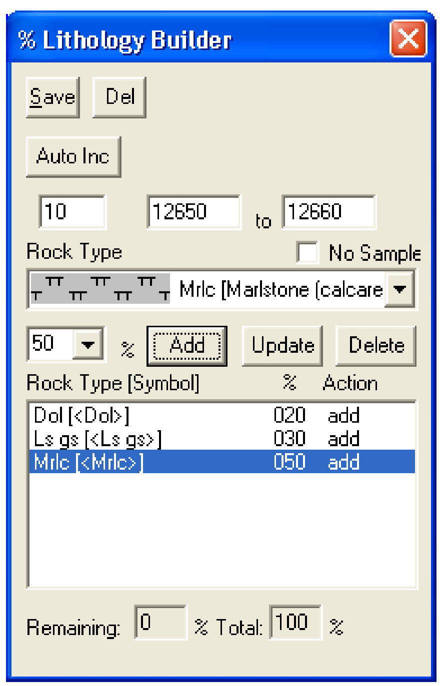


Percent (%) Lithology Layer

This window will allow you to draft a Percent (%) Lithology Layer. The information can either be entered into the Layer directly through this window or can be entered into the Sample Description window and will automatically be populated when the sample description window is closed.

Drafting a Percent (%) Lithology Interval

1. **Double click** anywhere within the **% Lithology** track to activate the **% Lithology Builder** window shown below:



Note: If you **click** on an existing interval, that intervals data will be displayed in the window. If you wish to clear the window so you can enter in a new interval click on a blank spot on the % Lithology Layer. This will clear the window so that you can enter in some new data. If you are wishing to continue from a previous entry, click on the last interval (its data will be shown) and then click on the Auto Inc button. The depth fields will be increased by the number represented in the field below the Auto Inc (Default in Metric is 5m, Imperial is 10ft). **button** and the data in the window will be cleared.

2. **Type** in a **From depth** in the appropriate field. Depress the **tab** key to move the cursor to the To field
3. **Type** in a **To depth** in the appropriate field.
4. **Select** a **rock type** from the rock drop down box by clicking on the down arrow and then selecting a Rock Type. If done correctly the name will be displayed in the field.
5. **Select** a **percentage (%)** from the percentage (%) drop down box by clicking on the down arrow and then selecting a percentage. If done correctly the Percentage (%) will be displayed in the field.
6. **Click** on the Add **button**. If done correctly the Rock Type and % will be displayed in Rock Type Symbol Field.

   Proceed with Steps 4-6 until you are pleased or 100% is reached.
7. **Click** on the Save **button**. The Layer / Log will be refreshed with the data you have entered. Press the **Esc** key on the keyboard to exit from the **% Lithology Builder** window.

To enter in more data click on the Auto Inc **button** to increase the depth fields by the default and proceed with Steps 4-8.

Resizing an Existing Interval

1. **Double click** on the **% Lithology Track** to activate the **% Lithology Builder** window.
2. **Click** on the interval, that you wish to resize, and the data will be displayed in the **% Lithology Builder** window.
3. **Type** in a **new depth** in the To Depth field and then **click** on the Save **button**.
4. Press the **Esc** key on the keyboard to exit from the **% Lithology Builder** window.

Deleting an Existing Interval

1. **Double click** on the **% Lithology Track** to activate the **% Lithology Builder** window.
2. **Click** on the interval, that you wish to delete, and the data will be displayed in the **% Lithology Builder** window.
3. **Click** on the Del **Delete** button. This will activate A System Message Warning the user: Deleting the % Lithology will also remove the associated sample description.

This warning is letting the user know that if the user utilized the sample description window to enter the % Lithology data that these sample descriptions will now be deleted.

4. **Click** on the Yes **button** if this is what you wish to do. **Click** on the No **button** if t is not what you want to do.
5. The user will be prompted with the same Warning message for each subsequent Rock type until they are all deleted.
6. Press the **Esc** key on the keyboard to exit from the **% Lithology Builder** window.

How to Update an Existing % Lithology Record

1. **Double click** on the **% Lithology Track** to activate the **% Lithology Builder** window.

2. **Click** on the interval, that you wish to change, and the data will be displayed in the **% Lithology Builder** window.
3. **Click** on the **Rock Type** in the Rock Type Symbol field. This places the Rock Type and its associated % into their appropriate fields.
4. **Select** a new **Rock Type** from the Rock Type drop box **and/or select** a new **percentage (%)** from the % drop box field.
5. **Click** on the Update **button.** This will change your rock type and/or percentage in the Rock Type Symbols field and change the none to updated.
6. Repeat Steps 3-5 until you are satisfied with the intervals data.
7. **Click** on the Save **button**.
8. Press the **Esc** key on the keyboard to exit from the **% Lithology Builder** window.

How to Delete an Existing % Lithology Record

1. **Double click** on the **% Lithology Track** to activate the **% Lithology Builder** window.
2. **Click** on the interval, that you wish to change, and the data will be displayed in the **% Lithology Builder** window.
3. **Click** on the **Rock Type** in the Rock Type Symbol field. This places the Rock Type and its associated % into their appropriate fields.
4. **Click** on the Del **Delete button.** This will activate A System Message Warning the user: Deleting the % Lithology will also remove the associated sample description. If responded to affirmatively, this will change the none to deleted beside the appropriate rock type.
5. Repeat Steps 3-4 until you are satisfied with the intervals data. The user can also add other rock types to make the intervals percentage equal 100%.
6. **Click** on the Save **button**.
7. Press the **Esc** key on the keyboard to exit from the **% Lithology Builder** window.

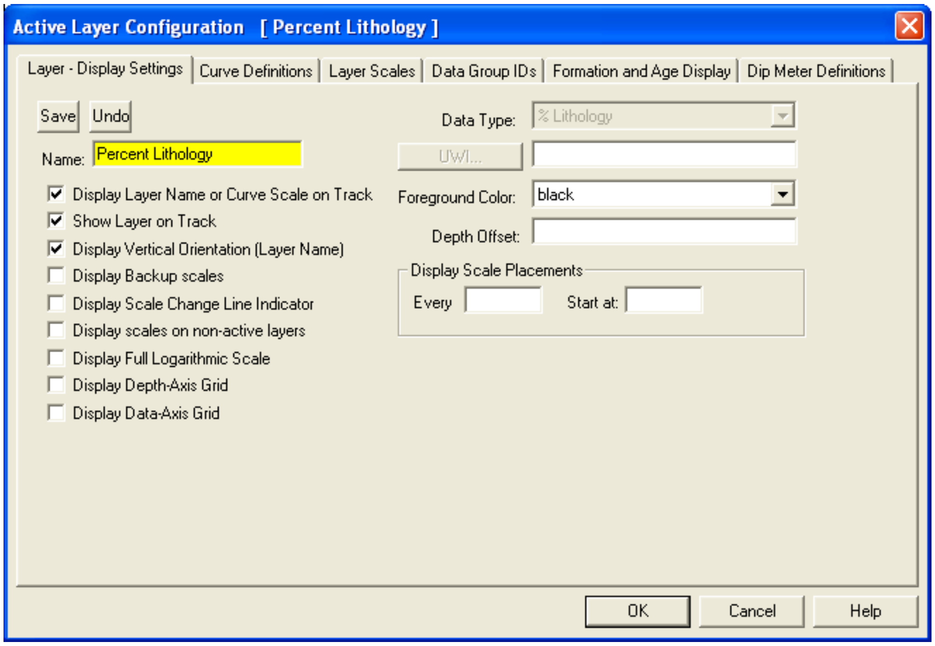
How to Enter a No Sample into the % Lithology Track

1. **Double click** on the **% Lithology Track** to activate the **% Lithology Builder** window.

Note: If you **click** on an existing interval that intervals data will be displayed in the window. If you wish to clear the window so you can enter in a new interval **click** on a blank spot on the % Lithology Layer. This will clear the window so that you can enter in some new data. If you are wishing to continue from a previous entry, **click** on the last interval (its data will be shown) and then **click** on the Auto Inc **button**. The depth fields will be increased by the number represented in the field below the Auto Inc (Default in Metric is 5m, Imperial is 10ft). button and the data in the window will be cleared.

2. **Type** in a **From depth** in the appropriate field. Depress the **tab** key to move the cursor to the To field
3. **Type** in a **To depth** in the appropriate field.
4. **Click** on the **No Sample** check box ☑ to activate it
5. **Click** on the Add **button**. If done correctly the No Sample (1005) will be displayed in Rock Type Symbol Field.
6. **Click** on the Save **button**. The Layer / Log will be refreshed with the data you have entered.
7. Press the **Esc** key on the keyboard to exit from the **% Lithology Builder** window.

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a % **Lithology** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.

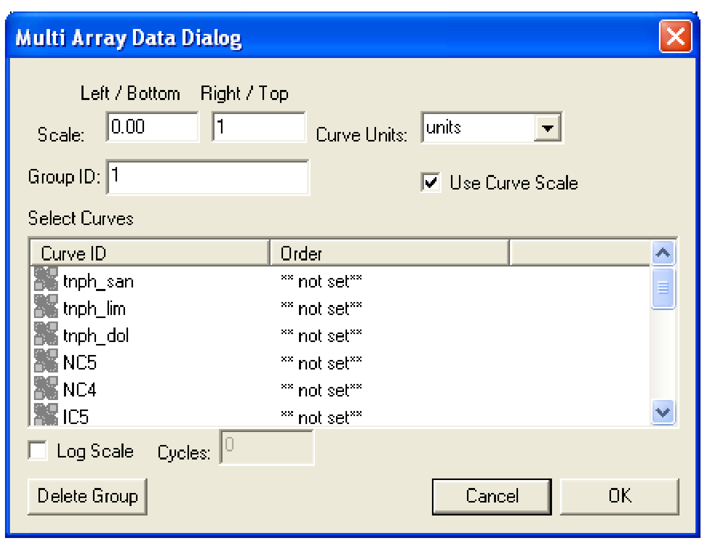


Multi Array Data Layer

The Multi Array Data Track can be added either as a track or a layer to your log. When you add a Multi Array as a layer to your log, you must assign it to a specific track.

Setting up the Layer using the Dialogue Window

1. **Double click** on the Multi Array Data Layer to activate the Multi Array Data Dialogue window.



2. **Click** on the **curves** you want in this layer in the Select Curves portion of the window. (You can have as many as you like). As you highlight the curve names they indicate which channel or ordering they will be displayed on the layer.

N.B. The curve list is provided from the curves that have been added through the log builder or have been imported through the ASCII or LAS Import utilities.

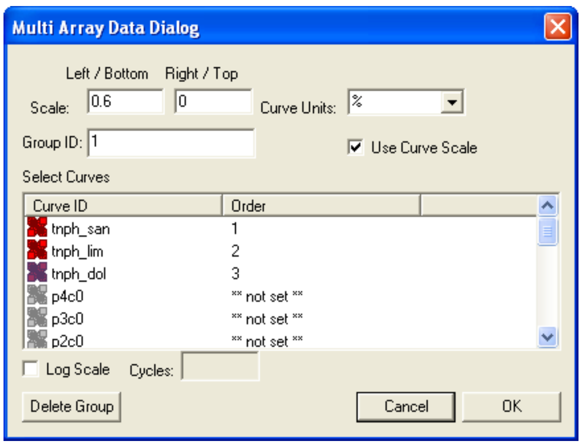
3. **Type** in or define or type in the **left and right scales** for your curve set. 

4. **Select or type** in the **curve units** represented on this layer. 

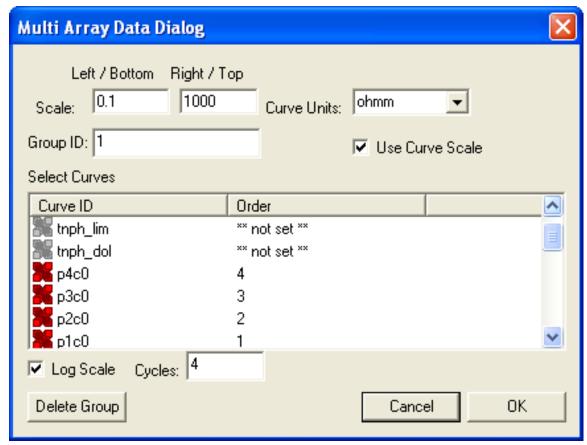
5. If the curves are logarithmic select the Log scale check box.

6. If the curves are logarithmic then the user must indicate how many log cycles you wish to display.

7. **Click** on the  **button**.

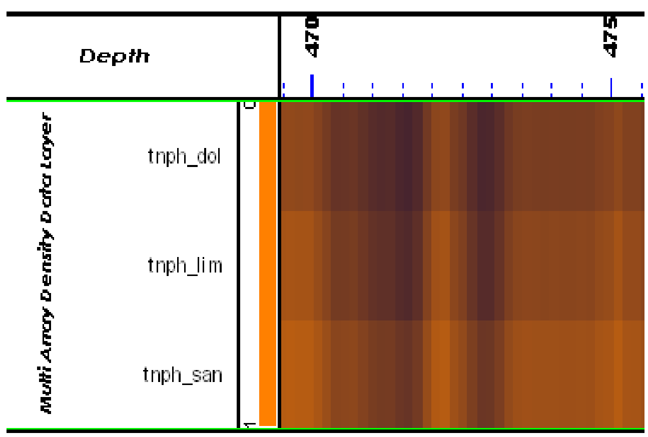


Linear Curve Data

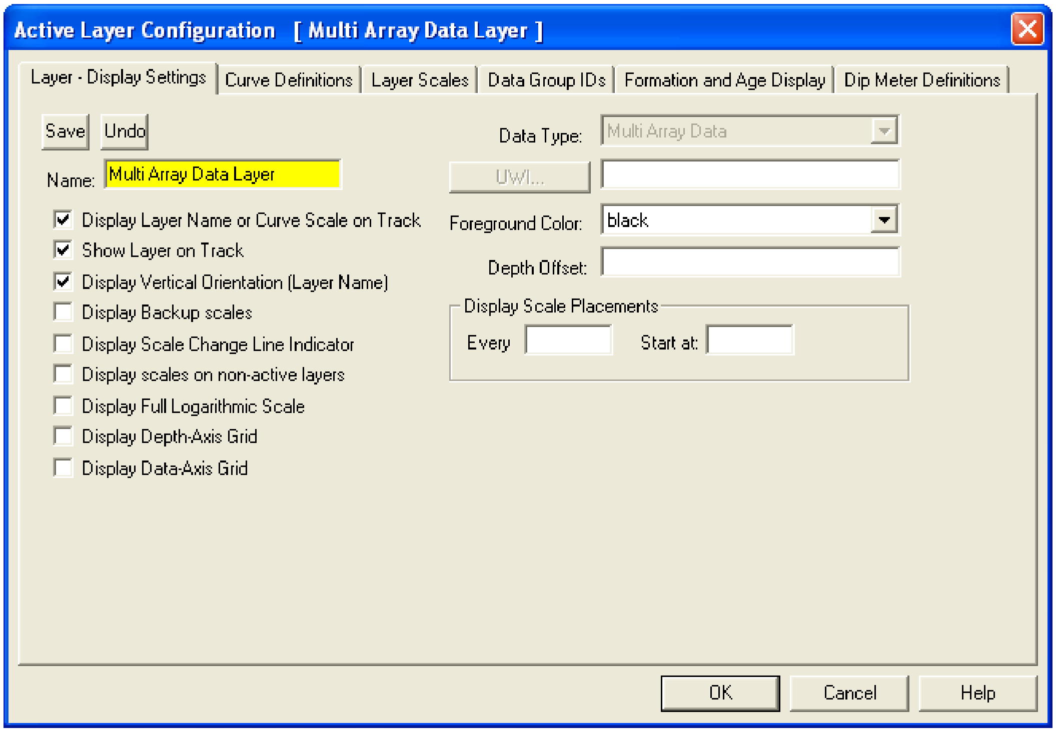


Logarithmic Curve Data

Below is an example of the Multi Array data layer illustrating Linear Data.



Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the Multi Array Data layer are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Rock Accessories** layer is active.



Oil Show Layer

This window allows you to add Oil Show symbols to the Oil Show layer on the log.

Different symbols are placed on the log to represent different percentages of the **Oil Show**. This is described in the log's legend.

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

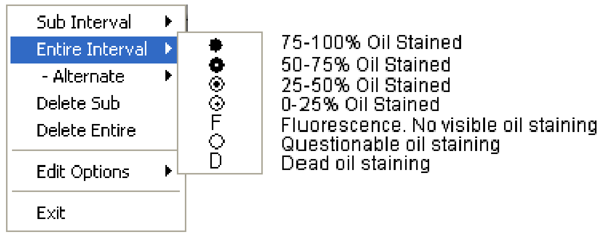
Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Adding an Entire Interval

Note: All description categories, such as **Oil Shows**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Oil Shows**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

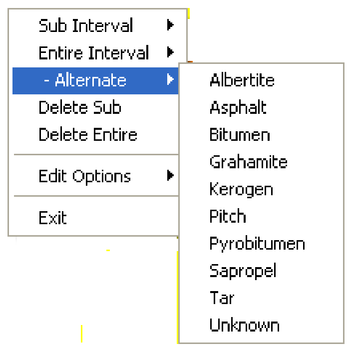
1. **Double click** on the **Oil Show** layer to activate the **Oil Show Builder** window.

2. **Right click** once anywhere within the interval on the **Oil Show** track / layer to activate the pop-up menu.



<u>Note</u>: The percentages (%) and written descriptions for the **Oil Show symbols**, illustrated in the above diagram, were included as a visual aid and do <u>not</u> normally accompany a pop-up menu.

3. **Click** on **Entire Interval** and then select a **Stain %**, a **Questionable Stain**, or a **Dead Stain** from the ensuing pop-up menu and the entire **Oil Show** interval will be drawn accordingly.
4. You are able to select both a **Live Stain** and a **Dead Stain** from the pop-up menu FOR AN ENTIRE INTERVAL and have them alternate with each other for the designated interval. To do so **right click in the entire interval**, **click** on the **alternate selection** and **select** any of the **dead staining types**.



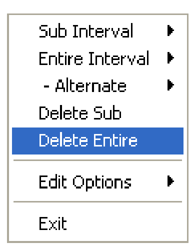
5. Repeat **Steps 2** and **4** to add more entire **Oil Show** intervals to the **Oil Show** track.
6. Press the **Esc** key on the keyboard to exit from the **Oil Show Builder** window.

Note: Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**. Be aware that if you have utilized an entire interval and you are now sub-intervalizing on a small increment, there may be some overlapping of symbols for certain log scales.

Tip: With respect to **Entire Interval**: The **frequency of symbols** at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

Deleting an Entire Interval

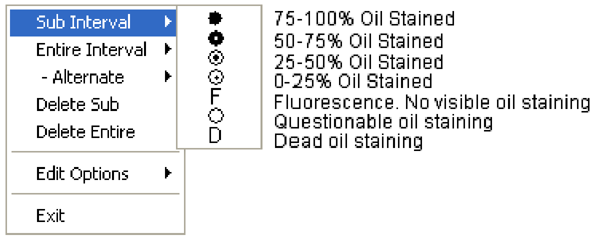
1. **Double click** on the **Oil Show** layer to activate the **Oil Show Builder** window.
2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Entire** and the entire **Oil Show** interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Oil Show Builder** window.

Adding a Sub-Interval

1. **Double click** on the **Oil Show** layer to activate the **Oil Show Builder** window.
2. **Right click** once anywhere within the **Oil Show** track / layer to activate the pop-up menu and click on Sub Interval and then select a Stain %, a Questionable Stain, or a Dead Stain from the ensuing pop-up menu.



3. **Click and drag** the mouse on the track / layer over the desired subinterval. **Or** if you just **click your mouse** on the track / layer a subinterval of whatever was selected in step 2 will be added to the layer / track at the depth you clicked at. The subinterval size is defaulted to the screen scale accuracy setting. The Oil Show sub-interval will be drawn accordingly.

Note: Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the subinterval**. Be aware that if you have utilized an entire interval and you are now sub-interval on a small increment, there may be some overlapping of symbols for certain log scales.

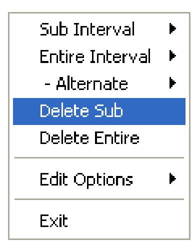
4. Repeat **Steps 2** - **3** to add more **Oil Show** sub-intervals to the **Oil Show** track.

Note: If you are only using sub-intervals (without the use of any entire intervals), and you wish to have **only one symbol on the log** (for each click), the sub-interval thickness (or increment), should be equal to or less than 0.25m and the symbol frequency (in the **Systems Options** window under **Options** on the application menu bar), should be 1 symbol every 2 meters or greater, for any log scale.

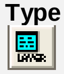
5. Press the **Esc** key on the keyboard to exit from the **Oil Show Builder** window.

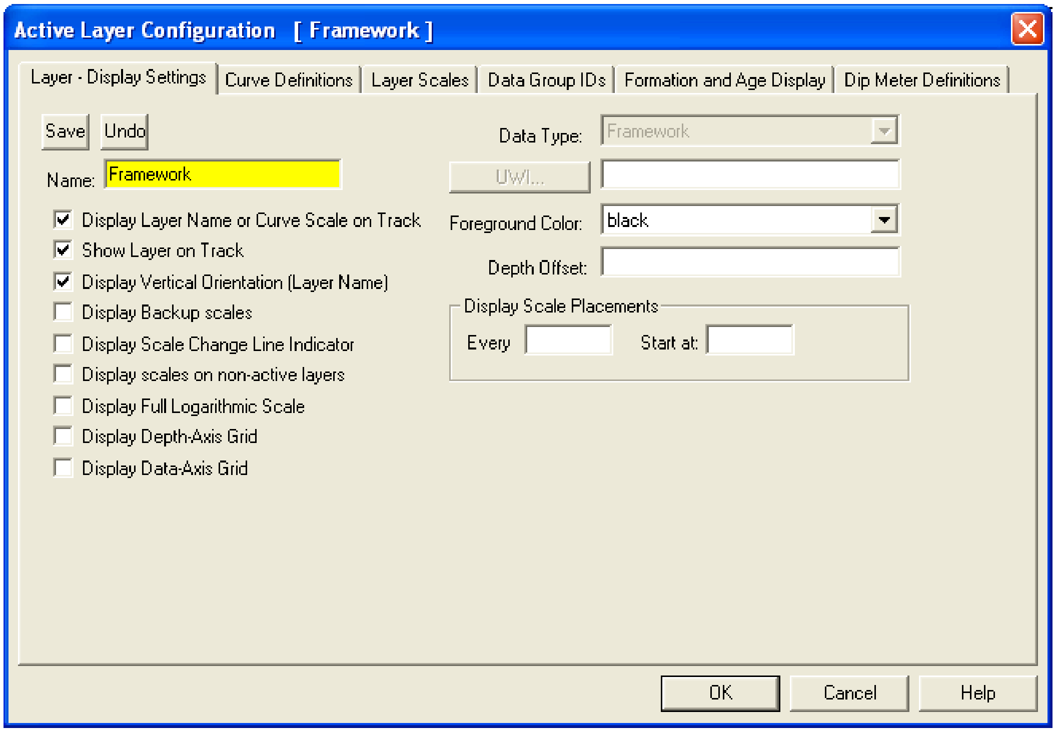
Deleting a Sub-Interval

1. **Double click** on the **Oil Show** layer to activate the **Oil Show Builder** window. Sub intervals will become highlighted in red.
2. **Right click** anywhere within the sub-interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Sub** and the **Oil Show** sub-interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Oil Show** sub-intervals from the **Oil Show** track.
5. Press the **Esc** key on the keyboard to exit from the **Oil Show Builder** window.

Note: Every type of layer in **Power*Log/Curve** has a **Data Type** classification. The default settings for the **Oil Show** layer are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Oil Show** layer is active.



Oil Staining Layer

This layer allows you to add or delete Oil staining in the Power*Core application. . There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter an oil staining. The oil staining is also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the oil staining symbol may be also resized or deleted if the diagenesis interval coincides with the beds resized or deleted interval.

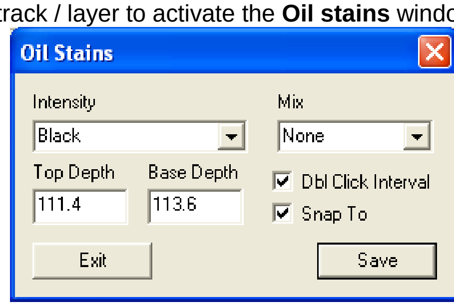
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Snap To 

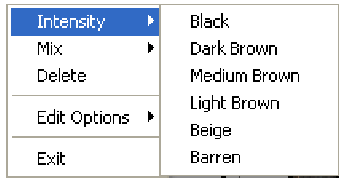
: When checked allows the user to snap to the previous data entry if you click and drag within 10 times the mouse pointer or screen scale accuracy of the previous data entry.

Adding an Oil Staining type over an Entire Interval

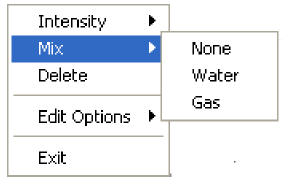
1. **Double click** on the **Oil Staining** track / layer to activate the **Oil stains** window.



2. **Right click** anywhere on the **Oil staining** track / layer to activate the pop-up menu and select the intensity selection to activate its pop out menu as shown below or click directly into the builder and utilize the drop down menu section:



3. If a mix is required **Right click** anywhere on the **Oil staining** track / layer to activate the pop-up menu and select the mix selection to activate its pop out menu as shown below or click directly into the builder and utilize the drop down menu section.



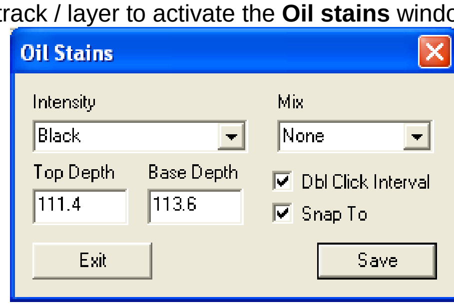
4. **Double Click on the layer** over the interval you wish to enter the selected data (**Make sure**  **is checked)** and it will be drawn accordingly.

<u>Tip</u>: The **frequency of mix symbols** (G & W) at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

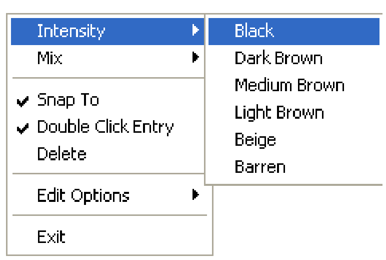
5. Repeat **Steps 2** - **4** to add more oil stains to the track.
6. Press the **Esc** key on the keyboard to exit from the **Oil Stains builder** window.

Adding an Oil Staining type and interval

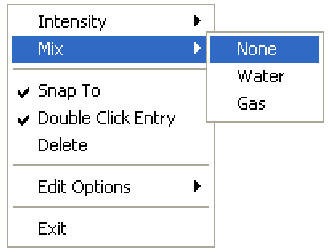
1. **Double click** on the **Oil Staining** track / layer to activate the **Oil stains** window.



2. **Right click** anywhere on the **Oil staining** track / layer to activate the pop-up menu and select the intensity selection to activate its pop out menu as shown below or click directly into the builder and utilize the drop down menu section:



3. If a mix is required **Right click** anywhere on the **Oil staining** track / layer to activate the pop-up menu and select the mix selection to activate its pop out menu as shown below or click directly into the builder and utilize the drop down menu section.



4. **Click and drag** the mouse on the track / layer over the desired interval. The oil staining intensity and mixture (if selected) interval will be drawn accordingly.

<u>Tip</u>: The **frequency of mix symbols** (G & W) at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

5. Repeat **Steps 2** - **4** to add more oil stains to the track.
6. Press the **Esc** key on the keyboard to exit from the **Oil Stains builder** window.

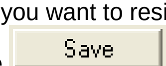
Resizing an Interval

Double click on the Oil Staining track / layer to activate the Oil Staining Builder window.

Mouse Pointer Method

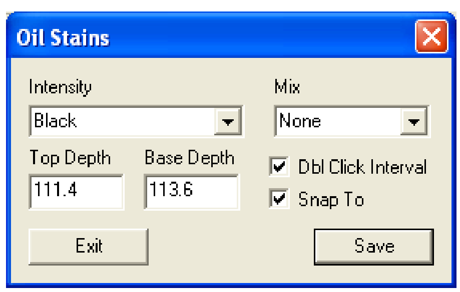
1. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends**. If done correctly the mouse pointer will turn into double arrows.
2. **Click and drag the mouse** to the new desired top or bottom depth. **Release the mouse button** and the interval will be resized.

Keypad Method

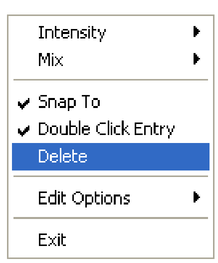
1. **Click once** on the Sedimentary Structure you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the  **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Deleting an interval

1. **Double click** on the **Oil Staining** track / layer to activate the **Oil Stains builder** window.



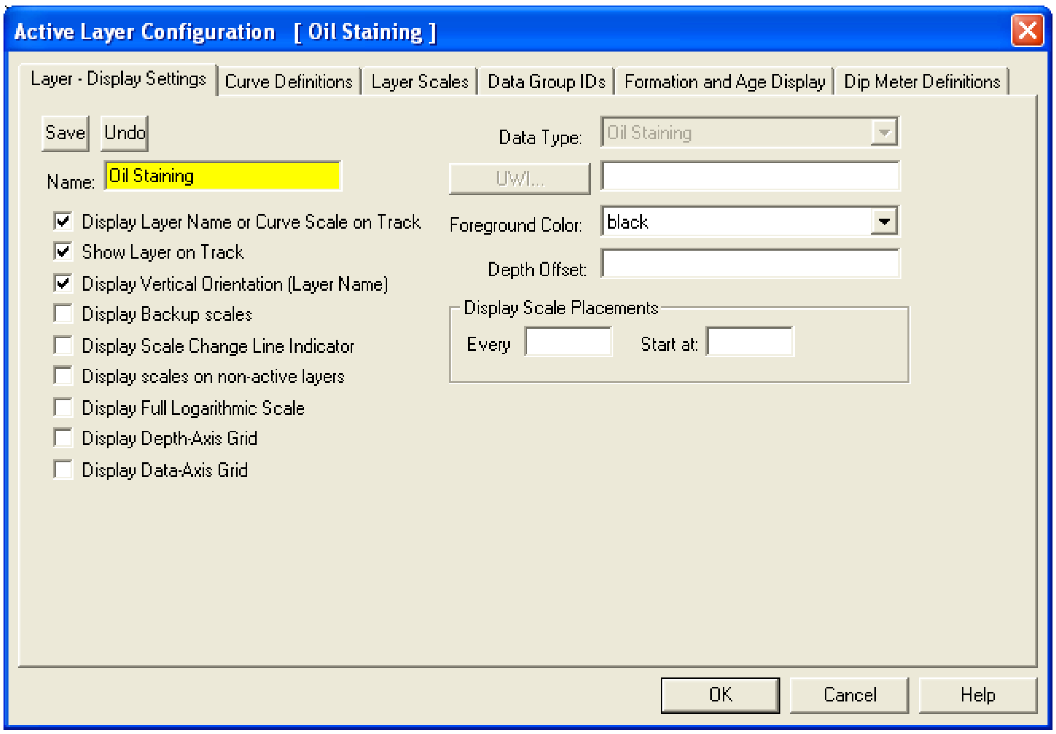
2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete** and the **Oil Staining** interval will be deleted accordingly.

4. Repeat **Steps 2** and **3** to delete more **Oil Staining** intervals from the **Oil Staining** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Oil Stains Builder** window.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Oil Staining** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Oil Staining** layer is active.

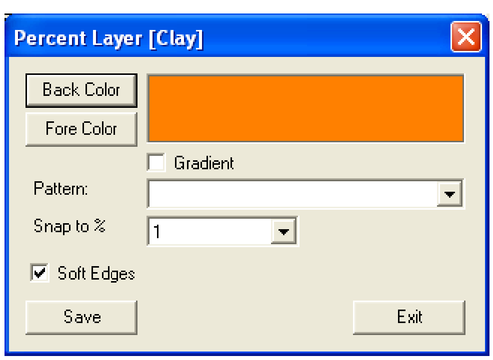


Percent Layer

Percent can be added either as a track or a layer to your log. When you add a Percent as a layer to your log, you must assign it to a specific track.

Drawing Percents

1. **Double click** on the **Percent track** to activate the Percent Layer window.



The default is a black histogram. The user has the ability to modify this.

2. **Click** on the Back Color **button** and **select a color** from the palette and then **click** on the OK **button**.

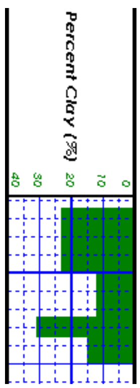
3. **Click** on the Fore Color **button** and **select a color** from the palette and then **click** on the OK **button**.

4. **Click** on the **Gradient** Gradient to activate a check mark if you want the gradient option.

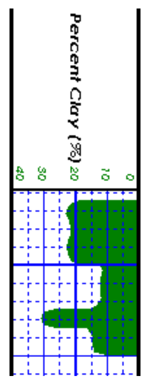
5. **Click** on the **Pattern** field box arrow to select a specific pattern type.

6. **Click** on the **Snap to** field box arrow in the **Fills for Environment** window and select any of the percents from the resulting choice list. This allows the mouse to move or less precision when dragging in a percentage.

7. **Soft Edges** Soft Edges: When checked will round off the percent and will present the percent edges with sine wave lines instead of strain lines.



Percent Hard edges



Percent Soft edges

8. **Click** on the Save **button**.

9. **Define** the desired interval by **clicking and dragging** the mouse pointer from a specific **Measured Depth** and **Percent (%)**, as indicated within the mouse pointer display box to another **Measured Depth** on the **Percent (%)** track.

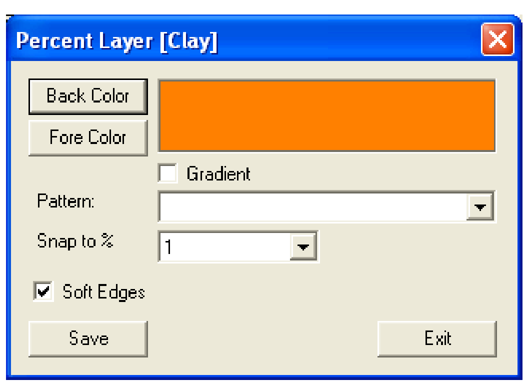
10. **Release** the mouse button and the percent interval will be drawn accordingly.

11. **Repeat** steps **8-9** to define more intervals.

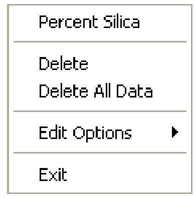
12. **Click** on the Exit **button** to exit the window.

Deleting Percents

1. **Double click** on the **Percent track** to activate the Percent Layer window.



2. **Right click on the interval** within the Percent track that you want to delete and **select Delete** from the pop out menu. The interval will be deleted. To delete all the intervals select **Delete All Data** instead.

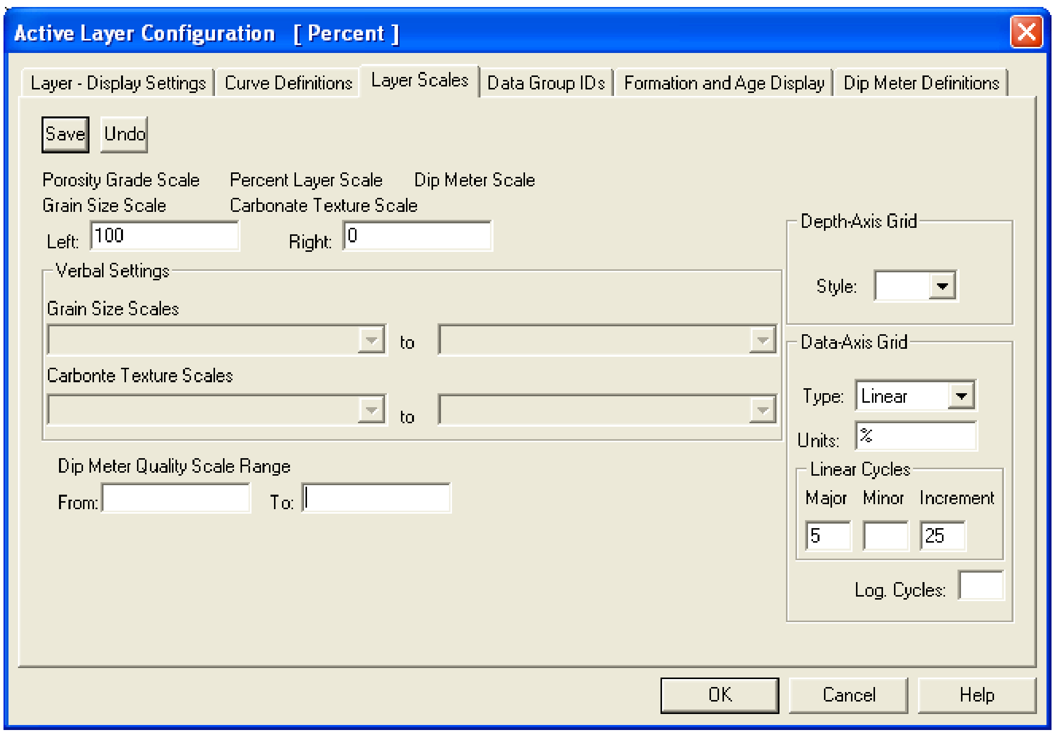


3. **Click** on the Exit **button** and the **Percent Layer** window will be closed.

Changing the Percent Scale

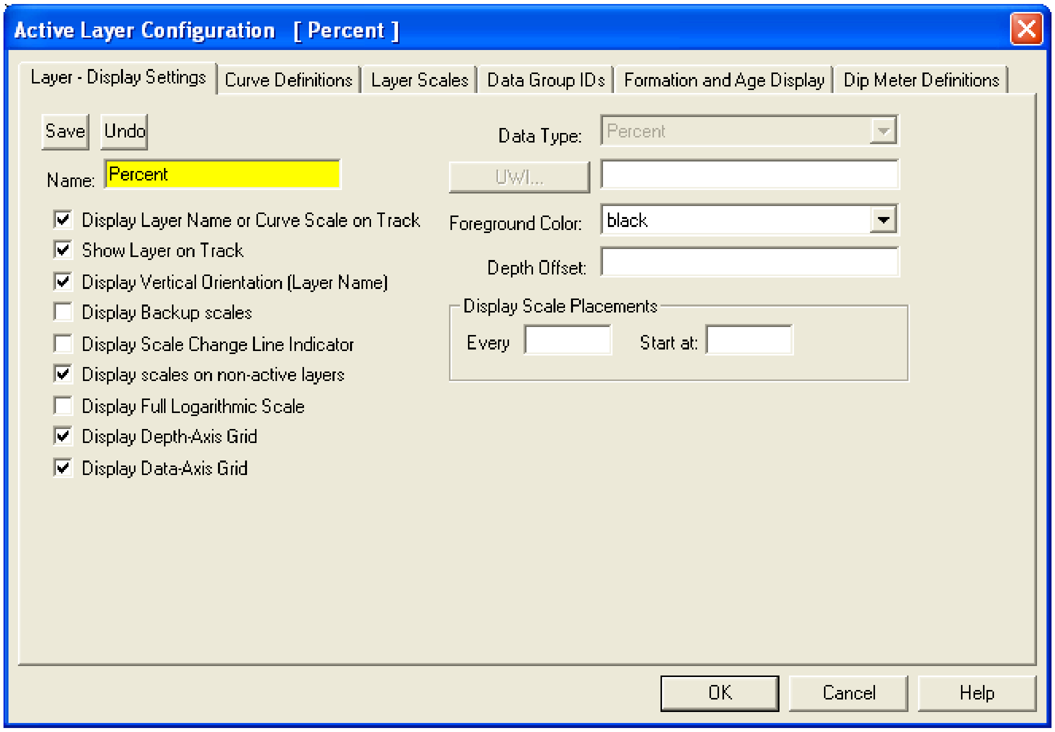
Percent scale can be changed through the **Layer Configuration** window.

1. **Click** on the **Layer Configuration button** on the **Toolbar**, when the **Percent** layer is active. This will activate the **Layer Configuration** window.
2. **Click** on the **Layer Scales Tab** to show the window shown below.



3. Notice that the default scale (when the percent was originally added to the log) was **0** to **100%** as you would see in your window. To change the original scale from **0 – 100%** to **0 – 20%**, simply adjust the **Left Scale** value to **40** by **double clicking** in the **Left Scale** field and typing in a value of **420**.
4. The user can also change the **layer grid pattern** by changing the Linear Cycles portion of the window.
5. **Click** on the Save **button** and **select** Yes from the **System Message** window to exit the Layer Configuration window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Generic Category** are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Percent** layer is active.



Porosity Grade Layer

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

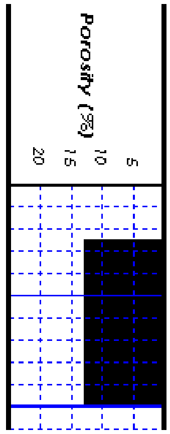
Sub-interval: A sub-interval can be of any thickness(less than the entire rock unit or bed), and can rest within an entire interval or can stand alone as a sub-interval without being part of a entire interval. You can have as many sub-intervals as you wish. If you have a sub-interval equal to or greater than the rock unit or bed and the top intervals are identical, the sub-interval will become an entire interval.

Snap to: ☑ Snap To when checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

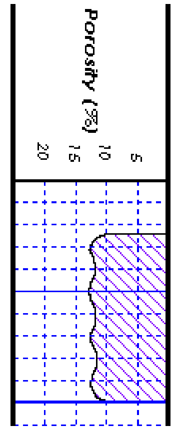
Double Click Interval ☑ Dbl Click Interval Entry: When checked will allow the user to enter a porosity grades over an entire interval with a double click on the left mouse button.

Soft Edges ☑ Soft Edges: When checked will round off the porosity grades and will present the porosity grades edges with sine wave lines instead of strain lines.

Porosity Pattern and Color Pattern: Crosshatch at 45 degrees Pattern Color: ... These selectors allow the user to select a specific pattern and foreground color for the lines for the porosity grade indicators. The user may have to change the background color for the porosity grade in the layer configuration window so that the lines show on the layer. (Ie black on black)



Porosity Grade No Pattern Hard edges



Porosity Grade Pattern Soft edges

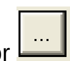
How to Change the Porosity Grade Pattern from a Solid Color to a Hatching Pattern on your log.

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window:

2. **Select** the **pattern** 

from the **Fill pattern** list drop box.

3. Select the Foreground Color (Line Color) from the 

selector 

button.

4. You may also have to change the background color of the Porosity Grade as well. With the **Porosity Grade** layer **click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.

5. **Click** on the 

drop box and **select** (in this case a background color) for your porosity grade layer. The illustration above is a white background.

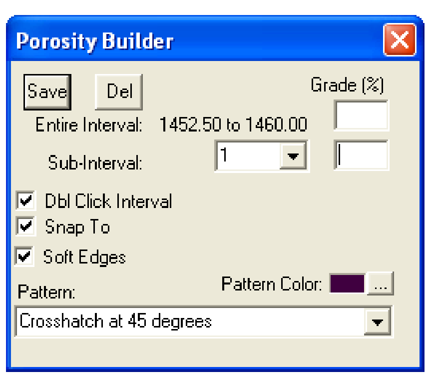
6. **Click** on the 

button.

Adding an Entire Interval

Note: All description categories such as **Porosity Grades** are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Porosity Grades**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window shown below:



2. Then, using the **left** mouse button, **click and drag** the mouse pointer from a specific **Measured Depth** and **Porosity (%)**, as indicated within the mouse pointer display box, to another **Measured Depth**, e.g. **1200.00 [3%]** to **1203.00**, on the **Porosity (%)** track.
3. **Release** the mouse button and the entire **Porosity (%)** interval will be drawn in purple accordingly.

   Repeat **Steps 2** and **3** to add more **Porosity (%)**.

   Or Use the Double Click data entry method.

4. With the 

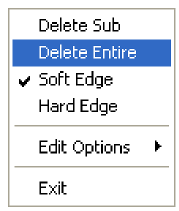
selected in the builder simply double click in the interval the porosity grade you wish to enter and it will fill in the entire interval with purple with your selection.

Note: If you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

Deleting an Entire Interval

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window.
2. On the **Porosity (%)** layer, **right click** anywhere within the purple interval that you wish to delete to activate the pop-up menu shown below:



3. **Click** on **Delete Entire** and the entire **Porosity Grade** interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

Adding a Sub-Interval

Note: An entire interval does not have to be in effect in order to add a sub-interval. You can add a sub-interval to a rock layer or bed that does not contain an entire interval. To add a sub-interval:

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window.
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Porosity (%)**, as indicated within the mouse pointer display box, to another **Measured Depth** on the **Porosity (%)** track.
3. **Release** the mouse button and the **Porosity (%)** sub-interval will be drawn in green accordingly.
4. Repeat **Steps 2** and **3** to add more **Porosity (%)** sub-intervals.
5. Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

Deleting a Sub-Interval

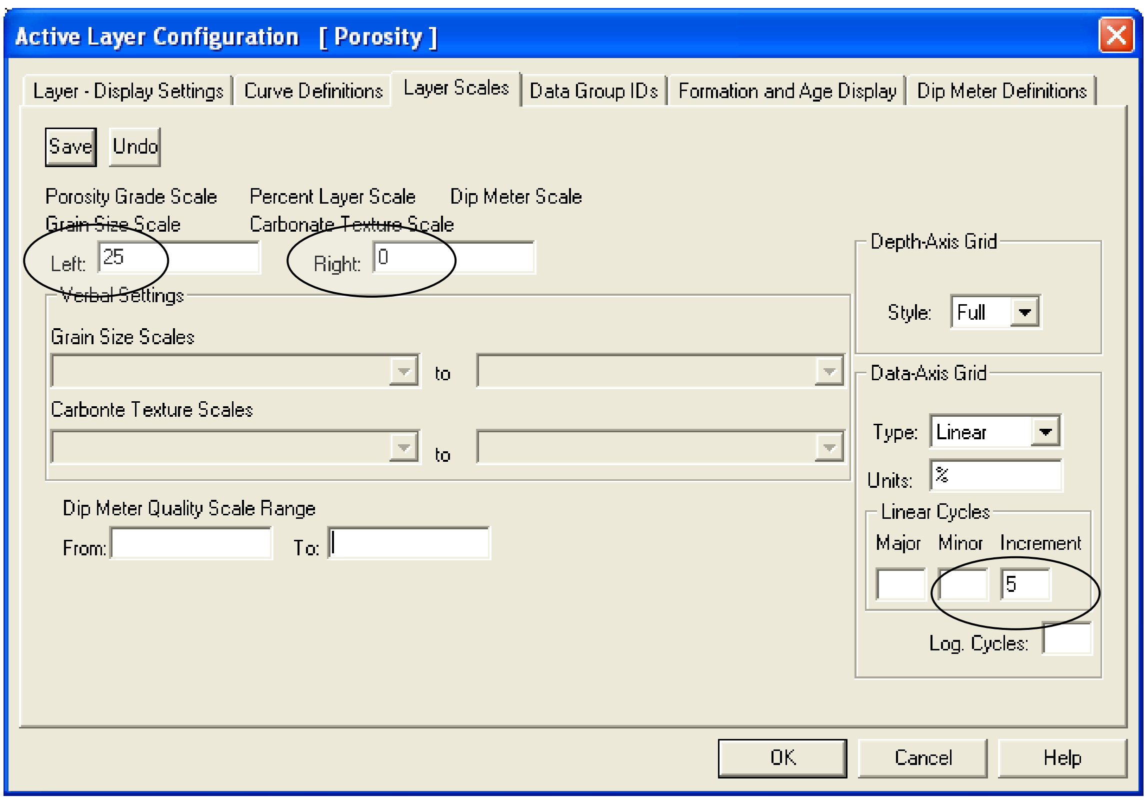
1. **Double click** on the **Porosity Grade** layer to expand the **Porosity(%)** track and to activate the **Porosity Builder** window.
2. On the **Porosity(%)** layer, **right click** anywhere within the green sub-interval that you wish to delete to activate the pop-up menu shown below:

3. **Click** on **Delete Sub** and the **Porosity (%)** sub-interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

Changing the Porosity Grade Scale and grid pattern

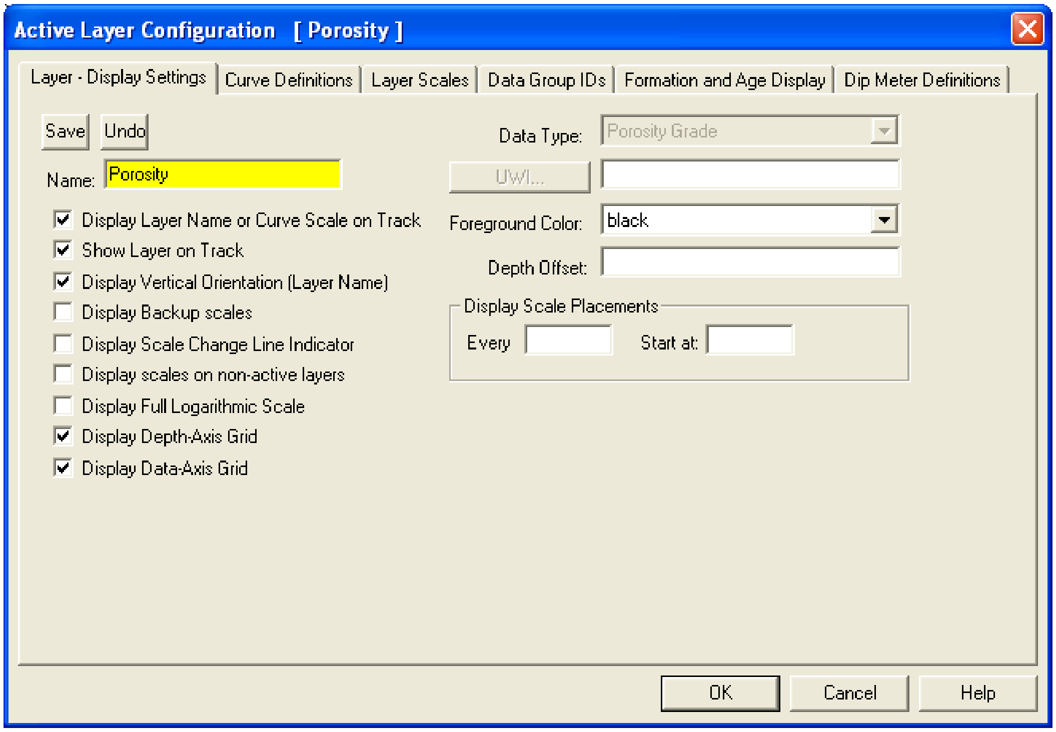
Porosity Grade scale has to be changed through the Layer Configuration window.

1. **Click** on the **Porosity Grade** layer to make it active.
2. **Click** on the  **Layer Configuration button** on the **Toolbar**. This will activate the **Layer Configuration tab dialogue** window.
3. **Click** on the **Layer Scales** tab.



4. Notice that the default scale (when the porosity grade was originally added to the log) was 25 to 0. To change the original scale from **25 – 0** to **12 to 0**, simply adjust the **Left Scale** value to **12** by **double clicking** in the **Left Scale** field and typing in a value of **12**.
5. The user can also adjust the grid scale increments on the log in the Linear Cycles Increment portion of this window.
6. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Porosity Grade** layer.

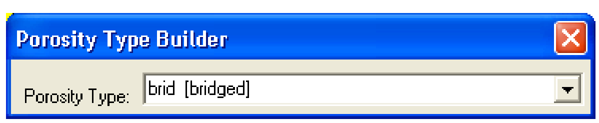


Porosity Type Layer

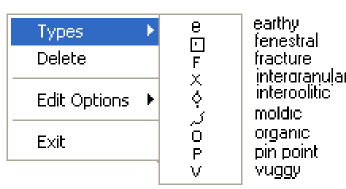
This function allows you to add or delete various Porosity Types on your log.

Adding Porosity Types

1. **Double click** on the **Porosity Type** layer to activate the **Porosity Type Builder** window.



2. **Right click** anywhere within the **Porosity Type** track to activate the pop-up menu.



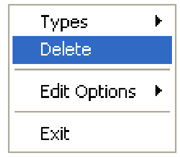
Note**:** The written descriptions of the **Porosity Types**, illustrated in the above diagram, were included as a visual aid and do not normally accompany a pop-up menu.

3. Select a **Porosity Type** from the pop-up menu and it will automatically be displayed in the **Porosity Type** field within the **Porosity Type Builder** window.
4. **Click** anywhere within the **Porosity Type** track to insert the selected **Porosity Type** symbol(s) at their desired locations.
5. Repeat **Steps 2** to **4** to add more **Porosity Types**.

6. Press the **Esc** key on the keyboard to exit from the **Porosity Type Builder** window.

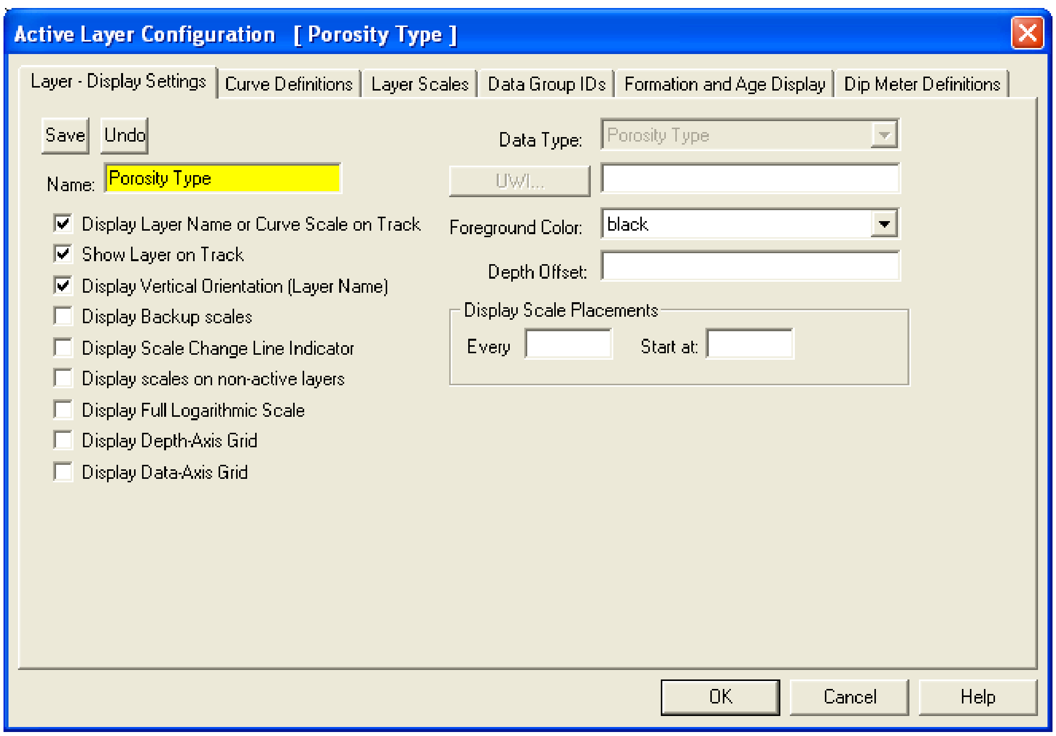
Deleting Porosity Types

1. **Double click** on the **Porosity Type** layer to activate the **Porosity Type Builder** window.
2. **Right click** on the **Porosity Type** symbol you wish to delete to activate the pop-up menu shown below:



3. **Click** on **Delete** from the pop-up menu and the selected **Porosity Type** symbol will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Porosity Types**.
5. Press the **Esc** key on the keyboard to exit from the **Porosity Type Builder** window.

Note: Every type of layer in Power*Log / Core & Curve has a Data Type classification. The default settings for a Porosity Type layer are shown below. To access this window, click on the Layer Configuration button on the Toolbar, when the **Porosity Type** layer is active.



Rock Accessories Layer

This layer allows you to add or delete rock accessories in the Power*Core application. There are two types of rock accessories layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

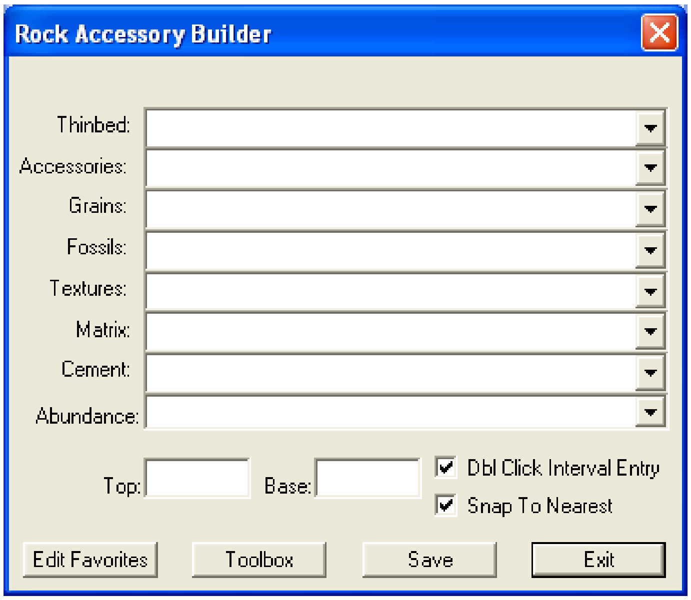
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding, grain size) where you have to have a rock type in order to enter a rock accessory. The rock accessories are also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the rock accessories may be also resized or deleted if the rock accessories interval coincides with the beds resized or deleted interval.

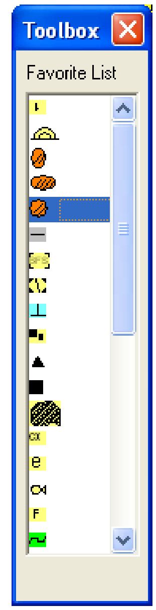
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Rock Accessory

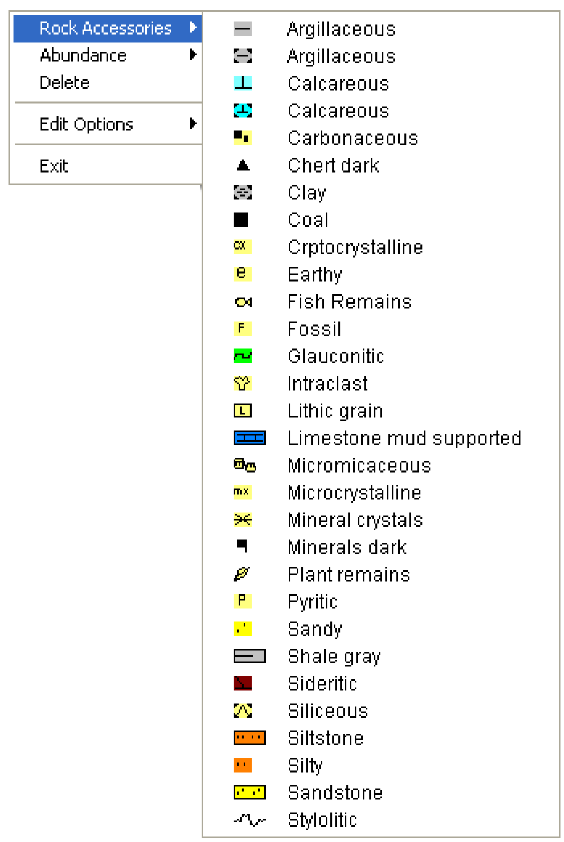
Note: All bed restricted description categories, such as **Rock Accessories (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a sedimentary structure, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double** click on the **Rock Accessory** track / layer to activate the **Rock Accessory Symbol window**. The toolbox can be turned on or off by clicking on the Toolbox button in the builder.



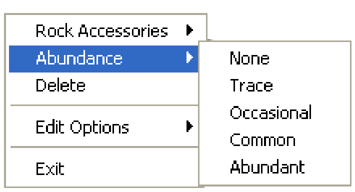


2. **Right click** anywhere on the **Rock accessories** track / layer to activate the pop-up menu shown on the next page.



3. **Click** on **Rock accessories selection** to activate the pop out favorites list menu and then select from the list or **click in the builder drop down menu** selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.

4. **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The sedimentary structure interval will be drawn accordingly.

6. **Double Click** within an existing rock type interval in the Bioturbation layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the **Bioturbation** window.

7. **Click and drag** the mouse on the track / layer close to an existing Bioturbation Symbol (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the bioturbations. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

<u>Note</u>: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.

<u>Tip</u>: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **5** to add more rock accessories to the track.

<u>Note</u>: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Symbol** window.

Resizing an Interval

1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory** window.

Mouse Pointer Method

2. **Click** on the **symbol** you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕ .
4. . **Release the mouse button** and the interval will be resized.

Keypad Method

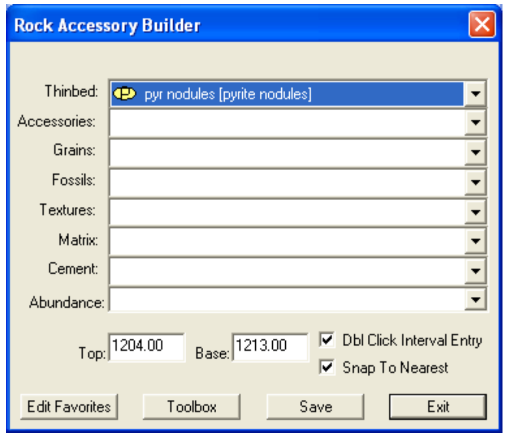
1. **Click once** on the Rock Accessory Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

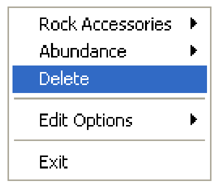
1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory Symbols** window.
2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a ✥ if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory Symbols** window.



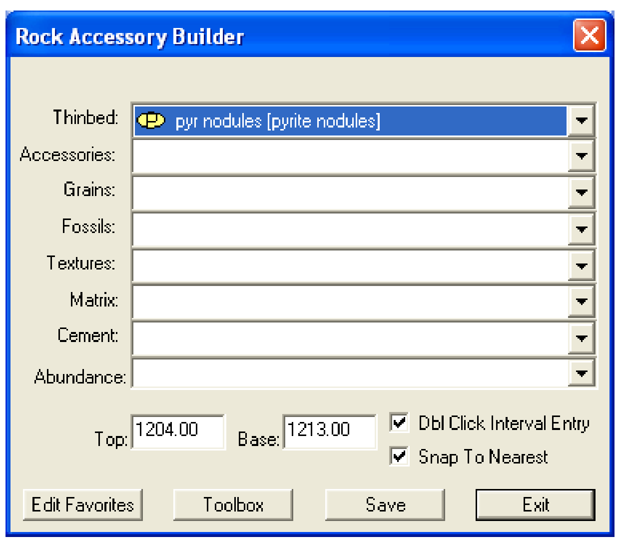
2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



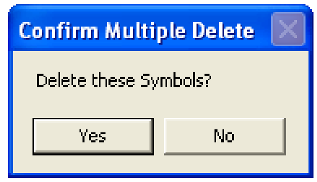
3. **Click** on **Delete** and the **Rock Accessory** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Rock Accessory** intervals from the **Rock accessories** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Symbol** window.

Deleting Multiple Intervals

1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory Builder** window.



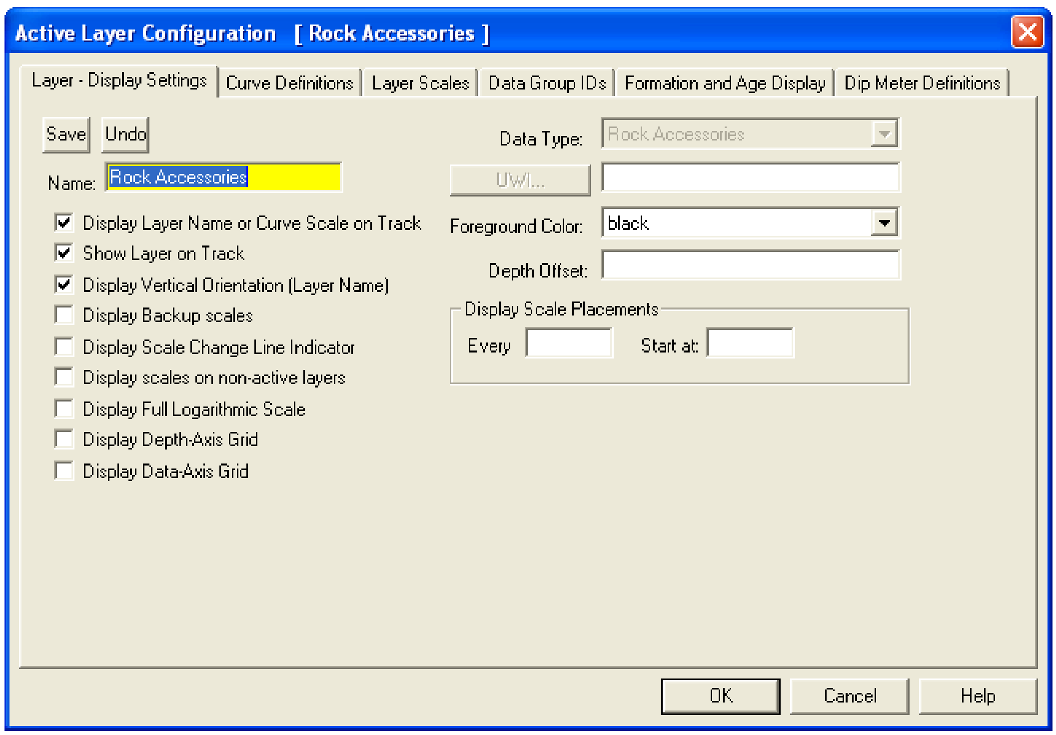
2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on  **button** and the **Rock Accessory** interval encompassed with your drag will be deleted accordingly.

5. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Rock accessories** layer are shown below. To access this window, click on the  **Layer Configuration button** on the **Toolbar**, when the **Rock Accessories** layer is active.



Rounding Layer

This function allows you to add and delete Rounding in the Rounding layer on the log.

Roundness can be described as a ratio of the average curvature radius of the corners (or edges) of a solid to the curvature radius of the maximum inscribed sphere.

Definitions of a Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

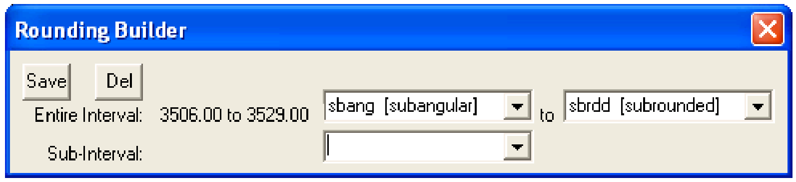
Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

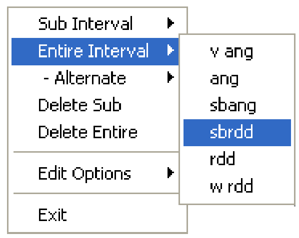
Adding an Entire Interval

<u>Note</u>: All description categories, such as **Rounding**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Rounding**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

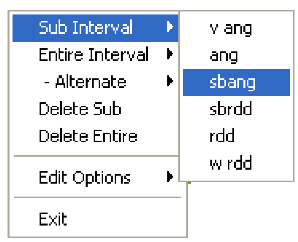
1. **Double click** on the **Rounding** track / layer to activate the **Rounding Builder** window.



2. **Right click** anywhere within the interval on the **Rounding** track / layer to activate the pop-up menu.



3. **Click** on **Entire Interval** and then select a degree of **Rounding** from the ensuing pop-out menu and the entire **Rounding** interval will be drawn accordingly.
4. You are able to select two types of rounding FOR AN ENTIRE INTERVAL and have them alternate with each other for the designated interval. To do so **right click on the track in the entire interval**, **click** on the **alternate** selection and **select** another **rounding type**.



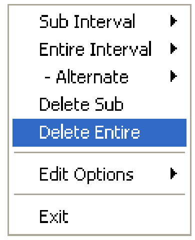
5. Repeat **Steps 2** and **4** to add more entire **Rounding** intervals to the **Rounding** track.
6. Press the **Esc** key on the keyboard to exit from the **Rounding Builder** window.

<u>Note</u>: Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**. Be aware that if you have utilized an entire interval and you are now sub-internalizing on a small increment, there may be some overlapping of symbols for certain log scales.

<u>Tip</u>: With respect to **Entire Interval**: The **frequency of symbols** at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scales, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scales, and so on.

Deleting an Entire Interval

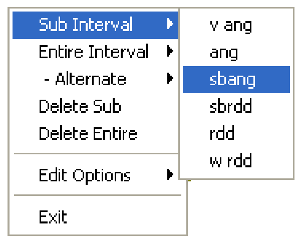
1. **Double click** on the **Rounding** track / layer to activate the **Rounding Builder** window.
2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Entire** and the entire **Rounding** interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Rounding Builder** window.

Adding a Sub-Interval

1. **Double click** on the **Rounding** track / layer to activate the **Rounding Builder** window.
2. **Right click** anywhere within the **Rounding** track / layer to activate the pop-up menu and **click** on **Sub Interval** and then select a degree of **Rounding** from the ensuing pop-out menu.



3. **Click and drag** the mouse on the track / layer over the desired subinterval. **Or** if you just **click your mouse** on the track / layer a subinterval of whatever was selected in step 2 will be added to the layer / track at the depth you clicked at. The subinterval size is defaulted to the screen scale accuracy setting. A degree of rounding sub-interval will be drawn accordingly.

<u>**Note**</u>**:** Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**. Be aware that if you have utilized an entire interval and you are now sub-interval on a small increment, there may be some overlapping of symbols for certain log scales.

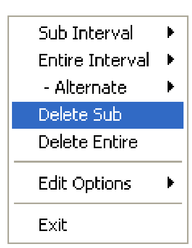
4. Repeat **Steps 2** - **3** to add more **Rounding** sub-intervals to the **Rounding** track.

<u>**Note**</u>**:** If you are only using sub-intervals (without the use of any entire intervals), and you wish to have **only one symbol on the log** (for each click), the sub-interval thickness (or increment), should be equal to or less than 0.25m and the symbol frequency (in the **Systems Options** window under **Options** on the application menu bar), should be 1 symbol every 2 meters or greater, for any log scale.

5. Press the **Esc** key on the keyboard to exit from the **Rounding Builder** window.

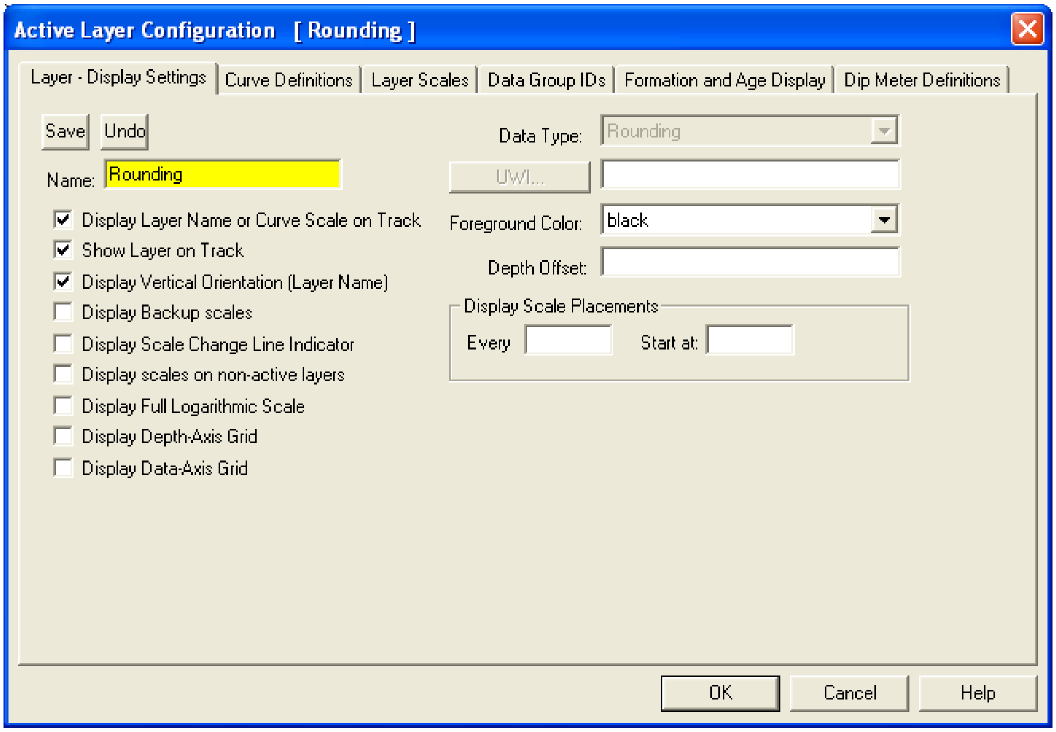
Deleting a Sub-Interval

1. **Double click** on the **Rounding** track / layer to activate the **Rounding Builder** window.
2. **Right click** anywhere <u>within</u> the sub-interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Sub** and the **Rounding** sub-interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Rounding** sub-intervals from the **Rounding** track.
5. Press the **Esc** key on the keyboard to exit from the **Rounding Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Rounding** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Rounding** layer is active.



Sedimentary Structures Layer

This layer allows you to add or delete sedimentary structures in the Power*Core application. There are two types of sedimentary structure layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

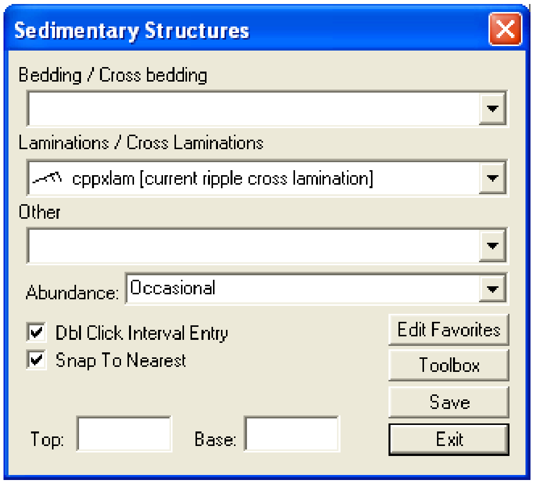
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a sedimentary structure. The sedimentary structure is also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the sedimentary structure may be also resized or deleted if the sedimentary structures interval coincides with the beds resized or deleted interval.

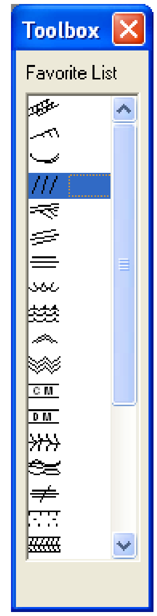
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Sedimentary Structure

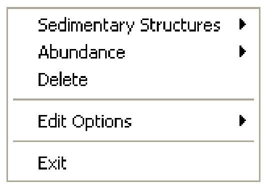
Note: All bed restricted description categories, such as **sedimentary structures (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a sedimentary structure, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Sedimentary Structure track / layer** to activate the **Sedimentary Structures Builder** window and toolbox. The toolbox can be turned on or off by clicking on the Toolbox button in the builder.

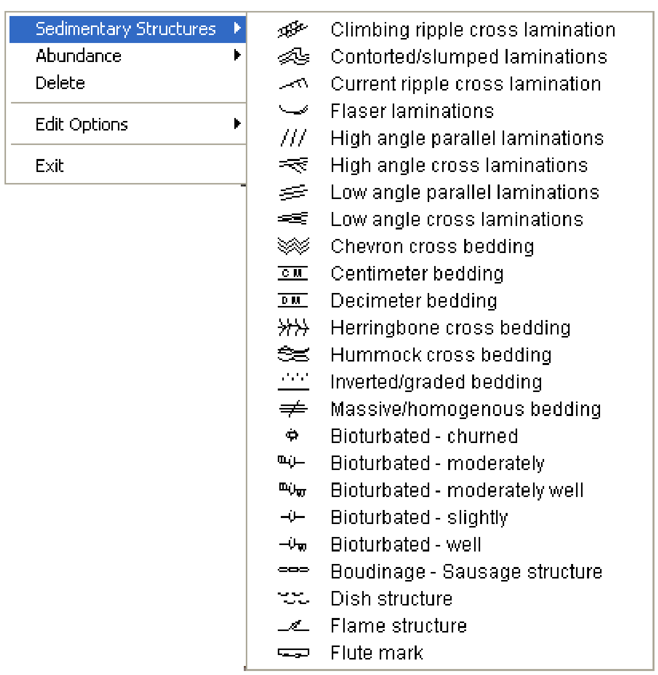




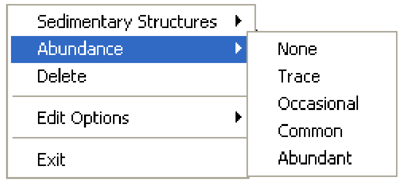
2. **Right click** anywhere on the **Sedimentary Structure** track / layer to activate the pop-up menu.



3. **Click** on the **Sedimentary Structures** favorites list to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. If abundance is required, **right click** on the existing sedimentary structure, **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The sedimentary structure interval will be drawn accordingly.
6. **Double Click** within an existing rock type interval in the Sedimentary Structure layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the Sedimentary Structures window.
7. **Click and drag** the mouse on the track / layer close to an existing sedimentary structure (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the sedimentary structures. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.

Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **7** to add more sedimentary structures to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Sedimentary Structure Builder** window.

Resizing an Interval

1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.

Mouse Pointer Method

2. **Click** on the **symbol** you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕ .
4. . **Release the mouse button** and the interval will be resized.

Keypad Method

1. **Click once** on the Sedimentary Structure you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

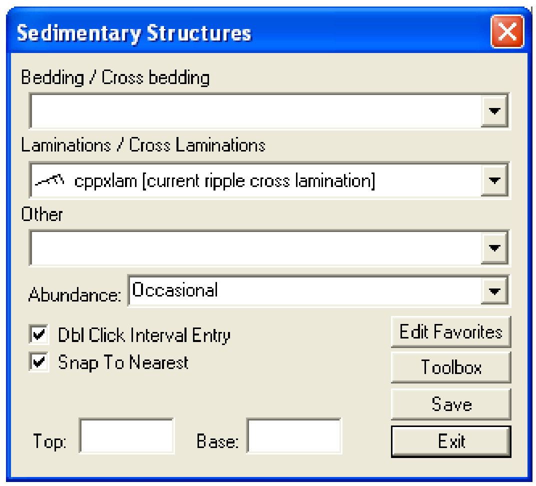
1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.

2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.

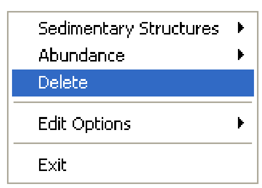
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a  if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.



2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



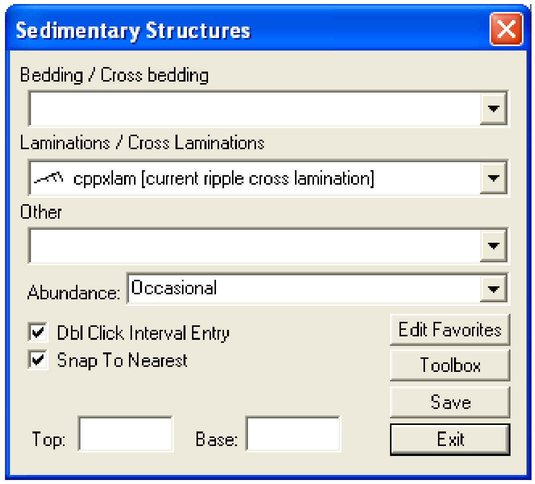
3. **Click** on **Delete** and the **Sedimentary Structure** interval will be deleted accordingly.

4. Repeat **Steps 2** and **3** to delete more **Sedimentary Structure** intervals from the **Sedimentary Structure** track / layer.

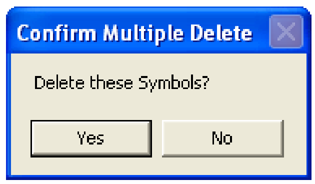
5. Press the **Esc** key on the keyboard to exit from the **Sedimentary Structure Builder** window.

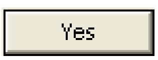
Deleting Multiple Intervals

1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.

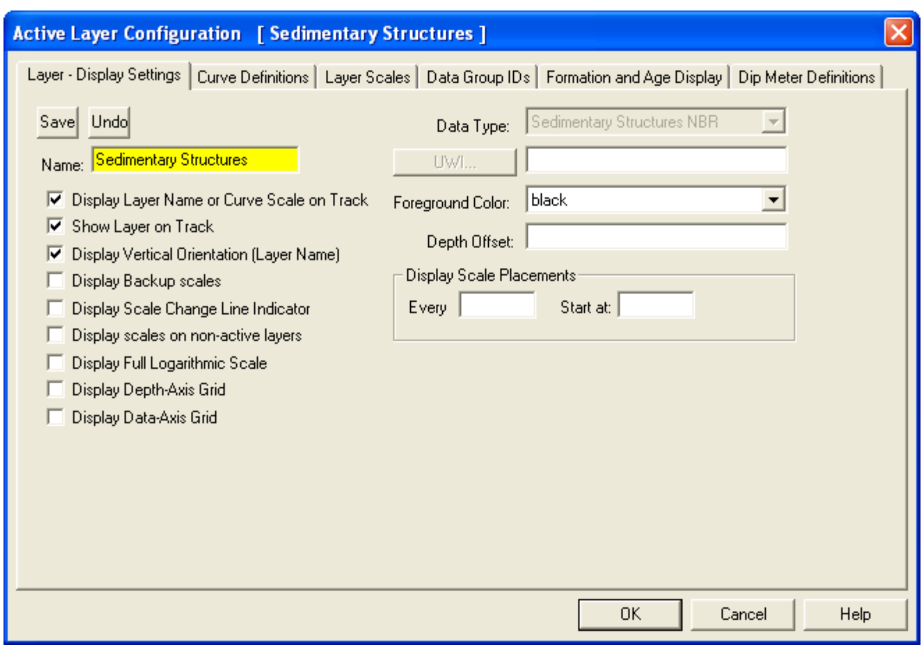


2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



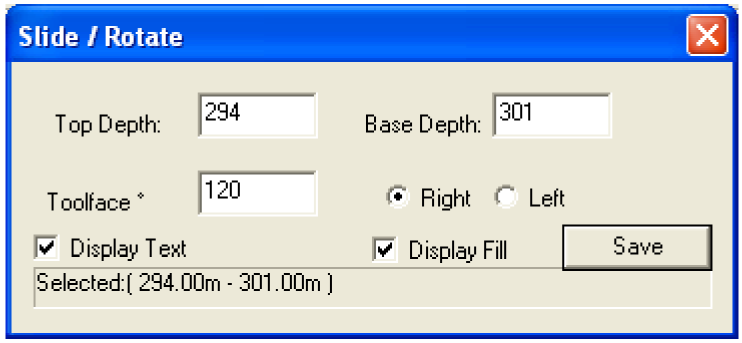
4. **Click** on  **button** and the **Sedimentary Structure** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Sedimentary Structure Builder** window.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Sedimentary Structures** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Sedimentary Structures** layer is active.



Slide / Rotate Layer

This layer provides a visual representation of the **Drill String Rotation** and **Orientation** throughout the progress of the well. You can also Import the Slide / Rotate data from a slide sheet when it is saved in a *.csv File format.

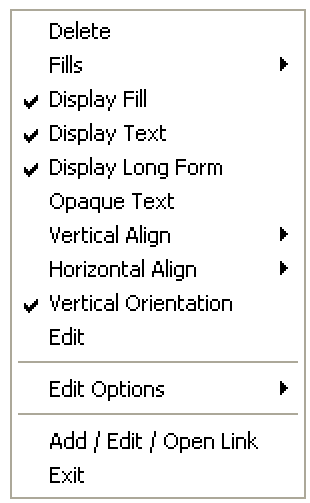


The **Rotate** is represented as a blank space on the layer. The only thing you can physically draw on the layer is a **Slide**. This is shown as a grey bar with the letter S covering the distance of the orientation If a Tool face is entered into the data entry window the slide orientation is viewed. The appearance of the slide Tool face font is available through the right click menu option where you can align the font top / centre / bottom, left / centre / right, opaque, vertical or horizontal depending on your track width and log format.

Display Text check box allows the user to view the S's or Tool Face Orientation in the layer display.

Display Fill check box allows the user to view the black strip drawn in by the user.

Drawing a Slide



Mouse Pointer Method

1. **Double click** on the **Slide / Rotate track** to activate the **Slide / Rotate** window.
2. Position the mouse pointer at the depth on the **Slide / Rotate** track where the **Slide** begins.
3. **Click and drag** the mouse pointer to the depth where the **Slide** ends.
4. **Release the mouse button** and the Slide will be drawn accordingly.
5. If you want to fill in the Tool face degrees and orientation, **Click on the slide** you just dragged, so that it is refreshed in the builder and then **Type** in the Tool face Orientation in degrees in the **Tool face field.** (180 degrees will be represented with a LS {low side} and 0 degrees will be represented with a HS {high side})
6. **Select** from the **Right or Left Radio buttons** (if applicable)
7. **Click** on the Save **button**
8. Press the **Esc** key on the keyboard to exit or **Click** on the **Close button** in the upper right hand corner of the builder. This will close down the Slide Rotate builder window.

Keypad Method

1. **Double click** on the **Slide / Rotate track** to activate the **Slide / Rotate** window.
2. **Type** in a Top depth in the **Top Depth** field.
3. **Type** in a Base depth in the **Base Depth** field.
4. **Type** in the Tool face Orientation in degrees in the **Too face field.** (180 degrees will be represented with a LS {low side} and 0 degrees will be represented with a HS {high side})
5. **Select** from the **Right or Left Radio buttons.** (if applicable)
6. **Click** on the Save **button**.
7. Press the **Esc** key on the keyboard to exit or **Click** on the **Close button** in the upper right hand corner of the builder. This will close down the Slide Rotate builder window.

Deleting a Slide

1. **Double click** on the **Slide / Rotate track** to activate the **Slide / Rotate** window.
2. **Right click** on the **Slide** you wish to delete. This will activate a pop out window and select delete.
3. Press the **Esc** key on the keyboard to exit or **Click** on the **Close button** in the upper right hand corner of the builder. This will close down the Slide Rotate builder window.

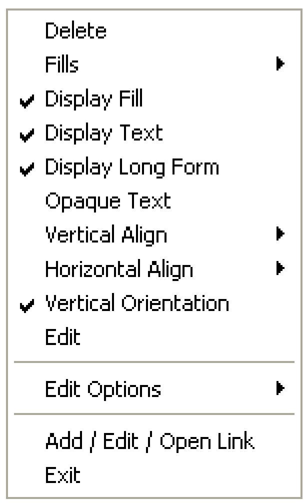
Resizing a Slide

1. **Double click** on the **Slide / Rotate track** to activate the **Slide / Rotate** window.
2. **Hold down** the **Ctrl key** on the keyboard and position the mouse pointer within the **Slide boundary** you wish to resize and you will see your mouse pointer turn into a resize cursor.
3. **Click and drag** the **mouse button** in the appropriate direction to resize the **Slide** it.
4. **Release the mouse button**, followed by the release of the **Ctrl** key on the keyboard, and the **Slide** interval will be resized accordingly.
5. **Alternatively, click on the slide** (it will then be displayed into the builder) and then **type in a new top depth or base depth (not both)** and then **click** on the Save **button.**
6. Press the **Esc** key on the keyboard to exit from the **Slide / Rotate** window or **Click** on the **Close button** in the upper right hand corner of the builder. This will close down the Slide Rotate builder window

Right Click Options for the Slide Rotate builder.

Modifying the Display settings for the Slide / Rotate layer

To modify the display options of an individual slide the user can right click on the slide and select one of these editing options. Once the options have been modified the program will remember these options for the next slide you draw.



1. **Double click** on the **Slide / Rotate track** to activate the **Slide / Rotate** window.

Delete Option **- Right click on an existing slide** with the builder open to activate the pop out menu seen above and **select Delete** to delete a slide**.**

Display Fill Option – **Right click on an existing slide** with the builder open to activate the pop out menu seen above and **select Display fill** to toggle between the slide color fill and white with grey lines to represent the length of the slide interval. The actual color of the slide can only be changed in the Layer configuration window.

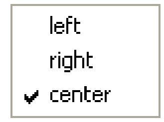
Display Text Option – **Right click on an existing slide** with the builder open to activate the pop out menu seen above and **Select Display Text** to toggle between the S (Slides) or the Toolface orientation if entered being displayed or not on the slide interval.

Display Long Form Option - Not applicable.

Opaque Text Option – **Right click on an existing slide** with the builder open to activate the pop out menu seen above and **select Opaque Text** to toggle between a white frame around the S (Slides) or the Tool face orientation for a better visibility or not.

Vertical Align Option - **Right click on an existing slide** with the builder open to activate the pop out menu seen above and **select Vertical Align** and this will activate another menu and select from the top bottom centre choices and allows the user to determine how they want the S (Slides) or the Tool face orientation text to be aligned and oriented within that slide interval.

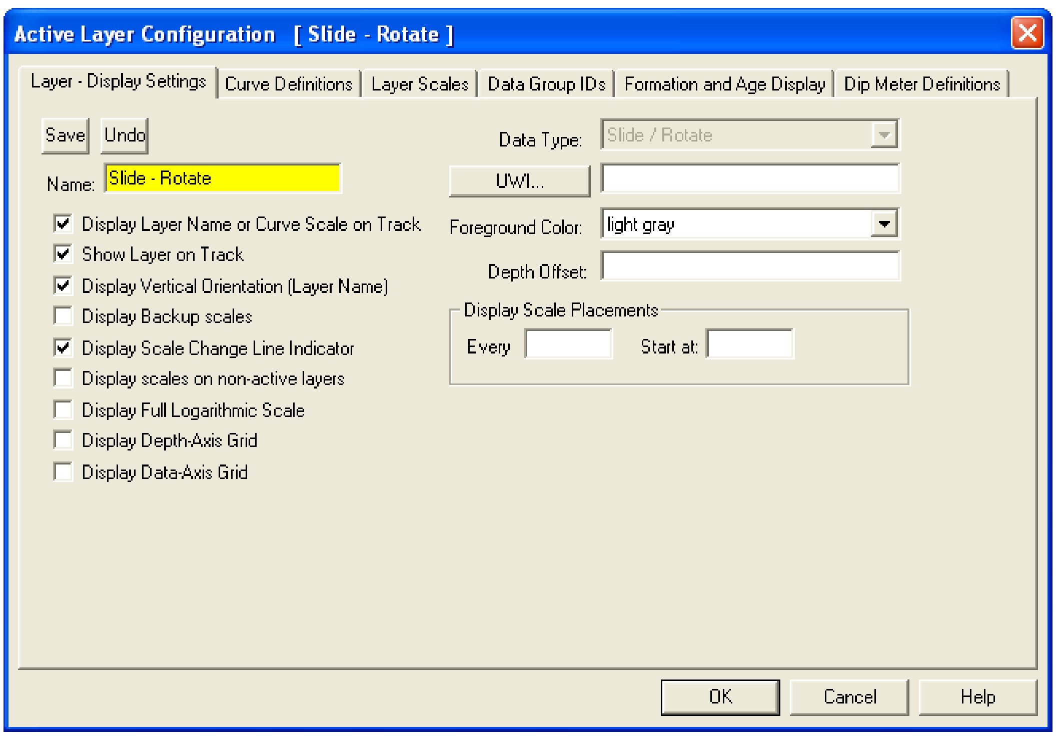
Horizontal Align Option - **Right click on an existing slide** with the builder open to activate the pop out menu seen above and **select Horizontal Align** and this will activate another menu and select from the left right centre choices and allows the user to determine how they want the S (Slides) or the Tool face orientation text to be aligned and oriented within that slide interval.



Vertical Orientation Option - **Right click on an existing slide** with the builder open to activate the pop out menu seen above and **select Vertical Orientation** which will allow the user to change the text orientation from up down text to left right text.

Edit Option- Not applicable. If you want to change the color of the slide you must access the layer configuration and change the color there.

Note: Every type of layer in **Power*Log / Core & Curve** has a **Data Type** classification. The default settings for the **Slide / Rotate** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Slide / Rotate** layer is active.



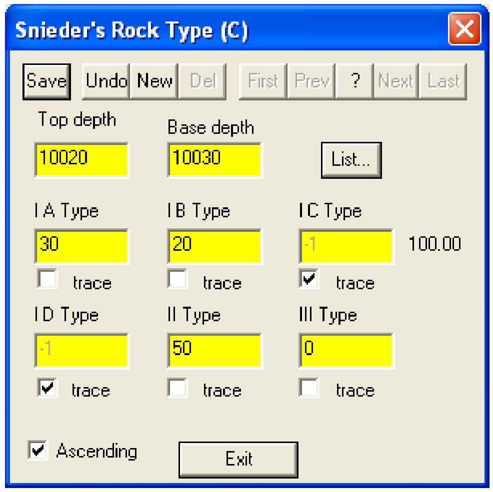
Sneider's Rock Type (Core) Layer

This layer allows you to add or delete Sneider's Rock type classification for permeability in our Power*Core application. There is only a **Non-Bed Restricted (NBR)** type of Sneider's Rock type (C) layer.

The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Sneider's Rock type (C)

1. **Double click** on the **Sneider's Rock Type (C)** track / layer to activate the **Sneider's Rock Type (C)** window. If the window has data displayed the user must click on the New **button**,



2. **Type** in a **top depth value** and **press** the **Tab key** to advance the cursor to the base depth field.
3. **Type** in a **base depth value** and **press** the **Tab key** to advance the cursor to the A type field.
4. **Type** in **values** for the different types, **tabbing** between fields and selecting the **Trace** check box to activate a trace value.
5. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

   The Ascending check box when activated will advance the Top Depth with the Base depth value. This will be implemented when the record is saved and the Start New Record option is chosen. If the Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

> **Note: You will not see the intervals added until after you have closed this data entry window.** Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
>
> **Tip:** The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

6. Repeat **Steps 1** - **5** to add more permeability types to the track.
7. Press the **Esc** key on the keyboard to exit from the **Sneider's Rock type (C) Symbol** window.

How to edit or change a Sneider's Rock Type (C) interval

1. **Double click** on the **Sneider's Rock Type (C) Track / Layer just above** the interval you wish to modify. This will activate the **Sneider's Rock type (C)** window.
2. **Click** on the List... **button** to view a list of **Sneider Rock type (C) intervals entered** to date and then **click** on the entry that you wish to edit. Or, **click twice** on the ? **Query button** and then **click** on the Next **button** to view all of the records in the database.
3. Once the selected Top Depth and its related data are displayed in the **Sneider's Rock type (C)** window, make any changes you feel are necessary.

4. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Sneider's Rock Type (C) interval

1. **Double click** on the **Sneider's Rock Type (C) Track / Layer just above** the interval you wish to delete. This will activate the **Sneider's Rock type (C)** window.

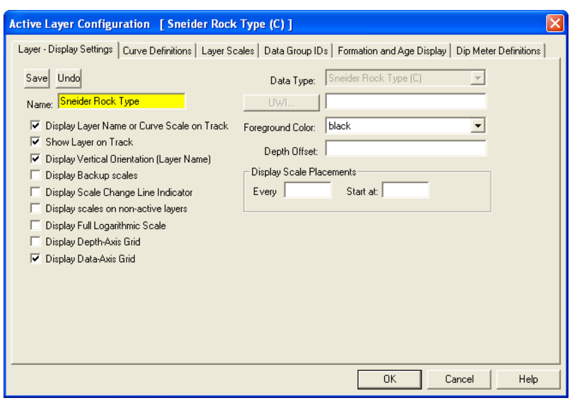
2. **Click** on the List... **button** to view a list of **Sneider Rock type (C) intervals entered** to date and then **click** on the Top depth that you wish to edit. Or, **click twice** on the ? **Query button** and then **click** on the Next **button** to view all of the records in the database.

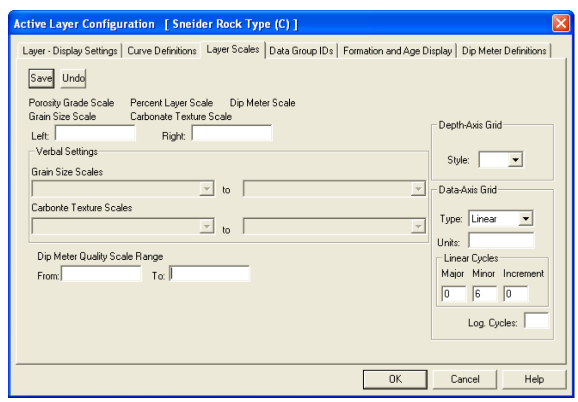
3. Once the selected description is displayed in the **Sneider's Rock type (C)** window, **click** on the Del **Delete button**.

<u>Field Restriction Table:</u>

Top Depth	10.5	Numeric	Mandatory
Base Depth	10.5	Numeric	Mandatory
A Type	6.3	Numeric	Mandatory
B type	6.3	Numeric	Mandatory
C Type	6.3	Numeric	Mandatory
D Type	6.3	Numeric	Mandatory
II Type	6.3	Numeric	Mandatory
III Type	6.3	Numeric	Mandatory

<u>Note</u>: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **Sneider's Rock Type (C)** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the layer is active.





Sneider's Rock Type (Geo) Layer

This layer allows you to add or delete Sneider's Rock type classification for permeability in all our applications. There is only a **Non-Bed Restricted (NBR)** type of Sneider's Rock type (Geo) layer.

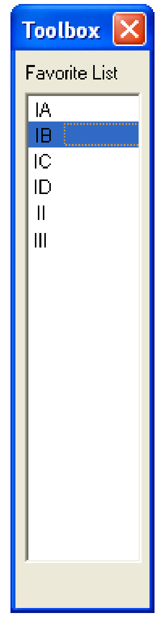
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

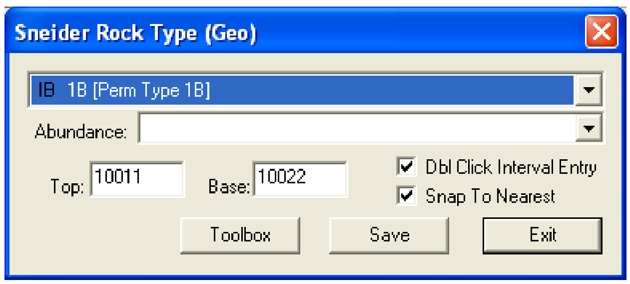
Adding a Sneider's Rock type

<u>Note</u>: All bed restricted description categories, such as **Sneider's Rock Type (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a fracture, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

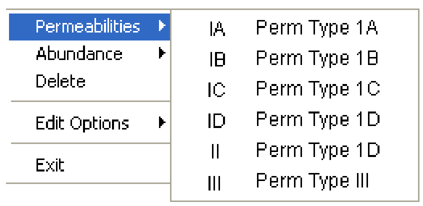
1. **Double click** on the **Sneider's Rock Type track / layer** to activate the **Sneider's Rock Type (Geo) Builder** window and toolbox. The toolbox can be turned on or off by clicking on the 

button in the builder.



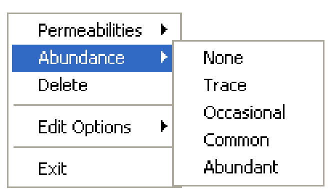


2. **Right click** anywhere on the **Sneider's Rock Type** track / layer to activate the pop-up menu.



3. **Click** on the **Permeabilities** favorites list to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.

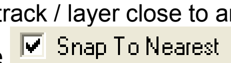
4. If an abundance is required, **right click** on the existing Sneider's Rock type symbol, **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting.

6. **Double Click** within an existing rock type interval in the Sneider's Rock type layer with the 

activated and the entire interval will be filled in with the attributes that have been entered into the **Sneider's Rock type Symbols** window.

7. **Click and drag** the mouse on the track / layer close to an existing Sneider's Rock type Symbol (either above or below in the same column) with the 

activated and there will be no spaces between the

symbols. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.

Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **7** to add more Sneider's Rock type symbols to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Sneider's Rock type Symbols Builder** window.

Resizing an Interval

1. **Double click** on the **Sneider's Rock type** track / layer to activate the **Sneider's Rock type Symbols Builder** window.

Mouse Pointer Method

2. **Click** on the **Symbol** you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor.
4. . **Release the mouse button** and the interval will be resized.

Keypad Method

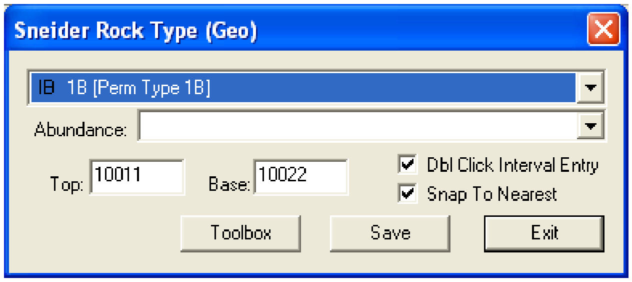
1. **Click once** on the Sneider's Rock type Symbol you want to resize to bring it into the builder and change the from depth or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

1. **Double click** on the **Sneider's Rock type** track / layer to activate the **Sneider's Rock type Symbols Builder** window.
2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Fracture** track / layer to activate the **Sneider's Rock type Symbols Builder** window.

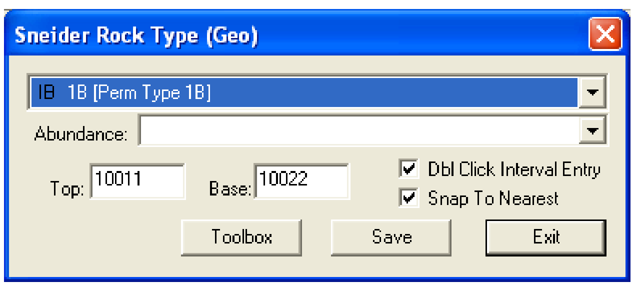


2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.

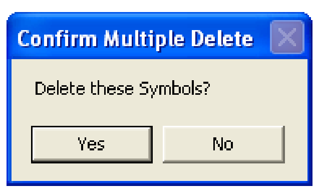
3. **Click** on **Delete** and the **Sneider's Rock type** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more Sneider's Rock type intervals from the **Sneider's rock type symbols** track / layer.
5. Press the **Esc** key on the keyboard to exit from the Sneider's Rock type **Symbols Builder** window.

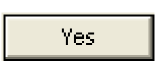
Deleting Multiple Intervals

1. **Double click** on the **Sneider's Rock type** track / layer to activate the **Sneider's Rock type Builder** window.

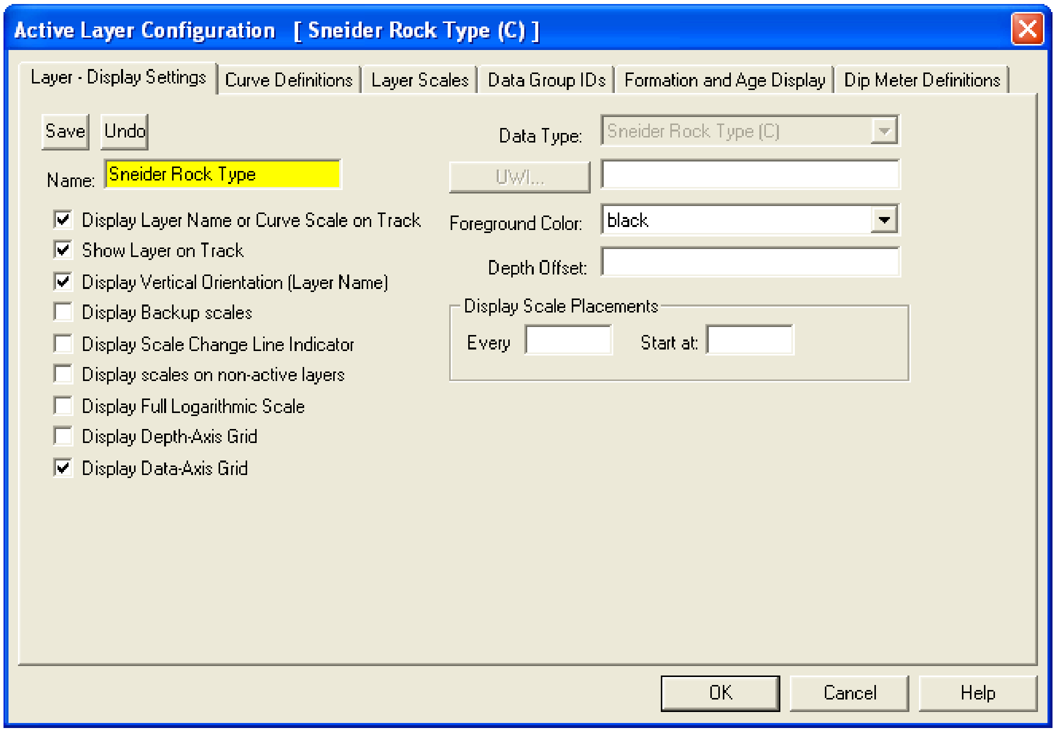


2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on  **button** and the **Sneider's Rock type** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Sneider's Rock type Builder** window.

<u>**Note**</u>**:** Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Sneider's Rock type (Geo)** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the Sneider's Rock Type layer is active.



Sorting Layer

This function allows you to add or delete Sorting in the Sorting layer on the log.

Sorting is defined as a mathematical measure of uniformity or the spread (or distribution) of particle sizes in sediment. **Sorting** is usually based on the statistical spread of the particle size frequency curve.

Well sorted	**less than 2 size grades (phi)**
Moderately well sorted	**2 - 3 size grades (phi)**
Moderately sorted	**3 - 6 size grades (phi)**
Poorly sorted	**6 - 10 size grades (phi)**
Very poorly sorted	**greater than 10 size grades (phi)**

Definitions of a Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

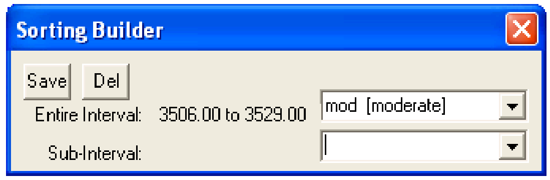
Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

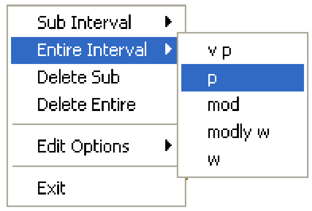
Adding an Entire Interval

Note: All description categories, such as **Sorting**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Sorting**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Sorting** track / layer to activate the **Sorting Builder** window.



2. **Right click** anywhere within the interval on the **Sorting** track / layer to activate the pop-up menu.



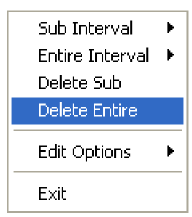
3. **Click** on **Entire Interval** and then select a degree of **Sorting** from the ensuing pop-up menu and the entire **Sorting** interval will be drawn accordingly.
4. Repeat **Steps 2** and **3** to add more entire **Sorting** intervals to the **Sorting** track.
5. Press the **Esc** key on the keyboard to exit from the **Sorting Builder** window.

Note: Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**. Be aware that if you have utilized an entire interval and you are now sub-interval on a small increment, there may be some overlapping of symbols for certain log scales.

Tip: With respect to **Entire Interval**: The **frequency of symbols** at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

Deleting an Entire Interval

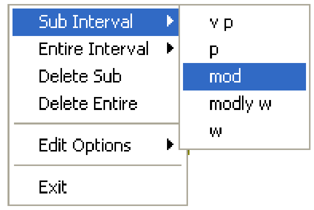
1. **Double click** on the **Sorting** track / layer to activate the **Sorting Builder** window.
2. **Right click** anywhere within the interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Entire** and the entire **Sorting** interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Sorting Builder** window.

Adding a Sub-interval

1. **Double click** on the **Sorting** track / layer to activate the **Sorting Builder** window.
2. Right click anywhere within the Sorting track / layer to activate the pop-up menu and click on Sub Interval and then select a degree of Sorting from the ensuing pop-out menu.



3. **Click and drag** the mouse on the track / layer over the desired subinterval. **Or** If you just **click your mouse** on the track / layer a subinterval of whatever was selected in step 2 will be added to the layer / track at the depth you clicked at. The subinterval size is defaulted to the screen scale accuracy setting. The Sorting sub-interval will be drawn accordingly.

Note: Regardless of the thickness of the entire interval or sub-interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**. Be aware that if you have utilized an entire interval and you are now sub-interval on a small increment, there may be some overlapping of symbols for certain log scales.

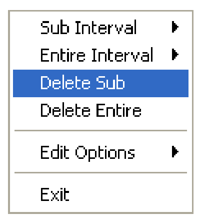
4. Repeat **Steps 2** - **3** to add more **Sorting** sub-intervals to the **Sorting** track.

Note: If you are only using sub-intervals (without the use of any entire intervals) and you wish to have **only one symbol on the log** (for each click), the sub-interval thickness (or increment), should be equal to or less than 0.25m and the symbol frequency (in the **Systems Options** window under **Options** on the application menu bar), should be 1 symbol every 2 meters or greater, for any log scale.

5. Press the **Esc** key on the keyboard to exit from the **Sorting Builder** window.

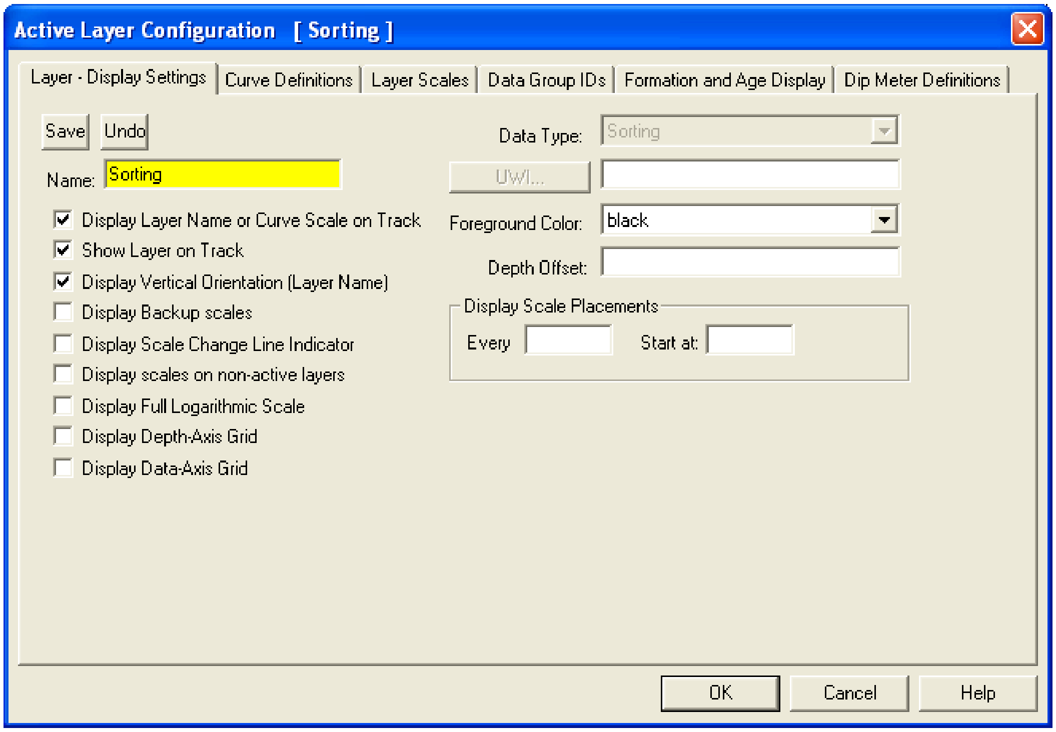
Deleting a Sub-Interval

1. **Double click** on the **Sorting** track / layer to activate the **Sorting Builder** window.
2. **Right click** anywhere within the sub-interval you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Sub** and the **Sorting** sub-interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Sorting** sub-intervals from the **Sorting** track.
5. Press the **Esc** key on the keyboard to exit from the **Sorting Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Sorting** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Sorting** layer is active.



Trace Fossils Layer

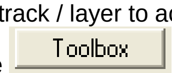
This layer allows you to add or delete trace fossils in the Power*Core application. There are two types of trace fossils layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a trace fossil. The trace fossils are also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the trace fossils may be also resized or deleted if the trace fossils interval coincides with the beds resized or deleted interval.

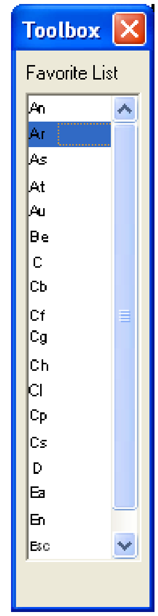
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

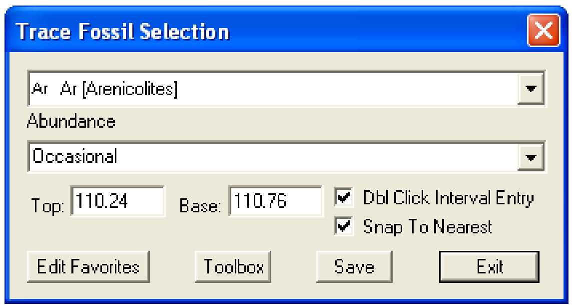
Adding a Trace Fossil

Note: All bed restricted description categories, such as **Trace Fossils (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a trace fossil, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

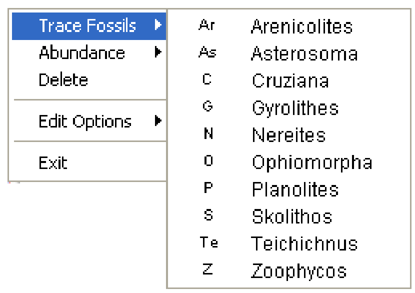
1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils Selection** window. The toolbox can be turned on or off by clicking on the 

button in the builder.



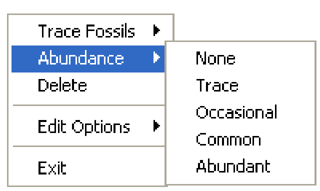


2. **Right click** anywhere on the **Trace Fossils** track / layer to activate the pop-up menu.



3. **Click** on **Trace Fossils selection** to activate the pop out menu and then select from the pop out favorites list or **click in the builder drop down menu** selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.

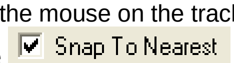
4. **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The sedimentary structure interval will be drawn accordingly.

6. **Double Click** within an existing rock type interval in the Trace Fossil layer with the 

activated and the entire interval will be filled in with the attributes that have been entered into the Trace Fossil window.

7. **Click and drag** the mouse on the track / layer close to an existing trace fossil (either above or below in the same column) with the 

activated and there will be no spaces between the sedimentary structures.

Remember you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

> **<u>Note</u>:** Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
>
> **<u>Tip</u>:** The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **5** to add more trace fossils to the track.

> **<u>Note</u>:** There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Trace Fossil selection** window.

Resizing an Interval

1. **Double click** on the **Trace Fossil** track / layer to activate the **Trace Fossil Builder** window.

Mouse Pointer Method

2. **Click** on the **symbol** you wish to resize. If done correctly it will indicate with the resize boxes.
3. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends** and then **Click and drag the mouse** to the new desired top or bottom depth. If done correctly the mouse pointer will turn into resize cursor ↕.
4. **Release the mouse button** and the interval will be resized.

Keypad Method

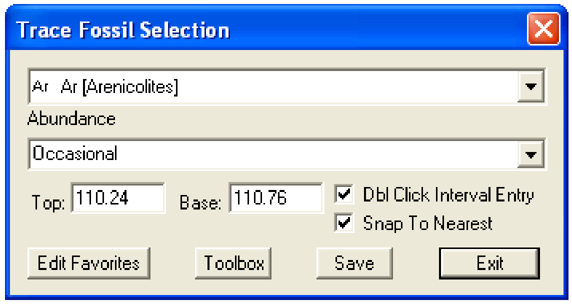
1. **Click once** on the Trace Fossil you want to resize to bring it into the builder and change the **from** or the **to** depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent

Moving an Interval

1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils selection** window.
2. **Move the mouse pointer over the interval** to be moved and **Click once**. This will activate the symbol with the selection move boxes.
3. **Hold the CTRL Key down** and **Click and drag** the interval to a new position. Your cursor will turn into a ✥ if done correctly. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils Selection** window.

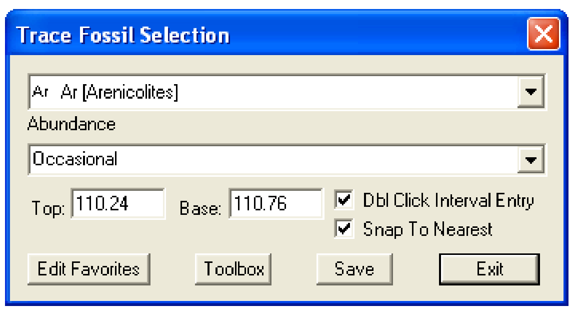


2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.

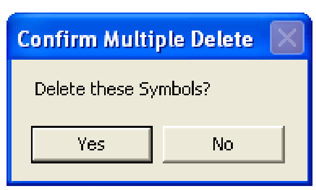
3. **Click** on **Delete** and the **Trace Fossil** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Trace Fossil** intervals from the **Trace Fossils** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Trace Fossils Builder** window

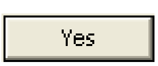
Deleting Multiple Intervals

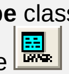
1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils Builder** window.

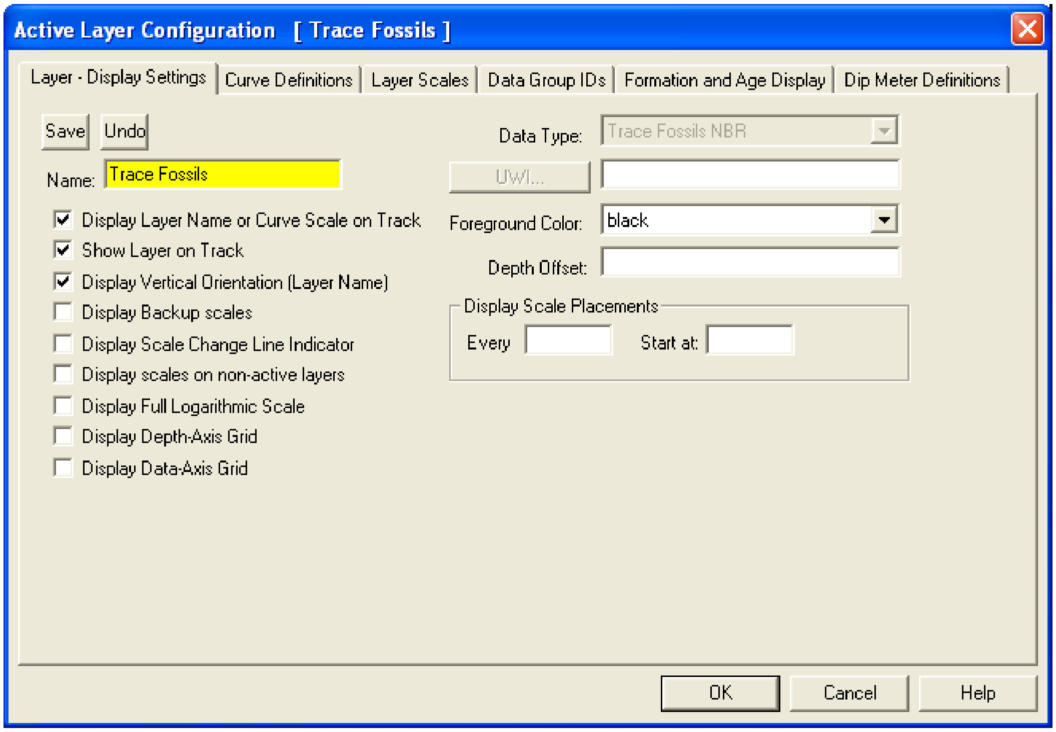


2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on  **button** and the **Trace Fossils** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Trace Fossils Builder** window.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Trace Fossils** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Trace Fossils** layer is active.


Active Layer Configuration [Trace Fossils]
Layer - Display Settings
Curve Definitions
Layer Scales
Data Group IDs
Formation and Age Display
Dip Meter Definitions
Save
Undo
Name:
Trace Fossils
Display Layer Name or Curve Scale on Track
Show Layer on Track
Display Vertical Orientation (Layer Name)
Display Backup scales
Display Scale Change Line Indicator
Display scales on non-active layers
Display Full Logarithmic Scale
Display Depth-Axis Grid
Display Data-Axis Grid
Data Type:
Trace Fossils NBR
UWI...
Foreground Color:
black
Depth Offset:
Display Scale Placements
Every
Start at:
OK
Cancel
Help

Chapter Nine - Database Navigational Tools

When you are accessing information within various windows, you have the option of navigating through the current database and editing the contents of the records stored within. This is accomplished through the use of a set of buttons located in the top left corner of each window.

The Editing and Database Navigational Tools look like this:

Save | Undo | New | Del | First | Prev | ? | Next | Last

Note that these buttons only exist in Table based windows (areas where you are able to access and input records).

The Editing and Database Navigational Tools

Save	**Save (or press ALT-S)**
Undo	**Undo**
New	**New (or press ALT-N)**
Del	**Delete**
First	**Move to First Record**
Prev	**Move to Previous Record**
?	**Query**
S?	**Start Query**
Next	**Move to Next Record**
Last	**Move to Last Record**

Save (ALT-S)

The Save button (or ALT-S) will save all new information that you have entered into the current database record.

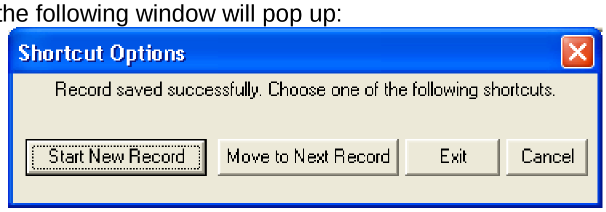
In order for any information placed in a window to be added to the database, you must **click** on the Save **button or press ALT-S** prior to exiting from the given window. Otherwise, all of your changes will be lost or ignored. Once the Save **button or ALT-S** is used, all of the information in a given window is added to the database.

When saving a record, **Power*Log / Core & Curve** performs validation checks to verify the integrity of the record information. If your record has been saved successfully, the result will be a **shortcut options** window shown below. If there are errors in the data you have entered, e.g. mandatory fields left blank or too many characters in a field, you will be prompted to make corrections to the offending field(s): the offending field will be highlighted and the problem with the invalid field will be displayed on the **Status Bar** in the main **Power*Log / Core & Curve** window. Once you have made the corrections, **click** on the Save **button or press ALT-S** again to save your changes.

Note: The Save **button** only saves information that you have just entered into the window, when you used this button. It does not save the entire log. In fact, it is not necessary to save an entire log, since **Power*Log / Core & Curve** is constantly recording changes to the log and storing them. This provides a safety feature that prevents the loss of data in the event of a system failure, i.e. power outage. If such a system failure

occurs, the only lost data will be the unsaved changes that were made to the window you were working on at the time of the failure.

After you **Save** a record, the following window will pop up:



Start New Record This option will clear the fields in the current window and prepare it for entering a new record.

Move to Next Record This option will move you one record ahead from your current record you just saved.

Exit This option will close the window you were working in.

Cancel This option will return you to the window you were working in without moving the record.

Undo

The Undo **button will restore the record data to the state of the last saved record.**

If you are making changes to a record and you decide that you want to abandon the changes, simply **click** on the Undo **button** and the record will be restored to its state prior to the last save.

New (ALT-N)

The New **button allows you to add a new record to the associated table in the database.**

Adding a New Record…

Whenever you see the New **button**, you have the ability to add a new record to the database.

1. **Click** on the New **button or press ALT-N** and the window will be cleared or set to default values.
2. Enter your new data into the appropriate fields in the given window. Note that some fields are mandatory, while others are optional. The mandatory fields are utilized by **Power*Log / Core & Curve** to recognize particular records in a table. For example, in the **Sample Description Report** window, the **Interval** and **Rock Type** fields are mandatory. They must have data in them before they can be stored in the database.
3. After your data is entered, **click** on the Save **button or press ALT-S**. This will store your new record permanently in the database.

<u>Note</u>: If you have not completed the mandatory fields, your record will not be saved. Instead, the **Status Bar** will inform you that a mandatory field is blank or improperly completed and the cursor will move to the offending field. If this happens, fill in the mandatory field properly, and then **click** on the Save **button or press ALT-S** again.

Delete

The Del **Delete button deletes the current database record.**

Before you **click** on the Del **Delete button**, be sure that the record you wish to delete is currently displayed in the window. After the Del **Delete** button is pressed, a window appears to confirm the deletion. Once deleted, a record is <u>permanently</u> removed from the database.

<u>Important Note</u>: If you delete a PARENT RECORD, each of its DEPENDENT RECORDS are deleted as well. For example, if you delete a **Well Test Record**, its associated **Test Periods** will also be removed. Moreover, if you delete a **Well**, every record within that **Well** will be deleted as well.

Move to First Record

The First Record button will move you to the first record in the database table or the first record in a queried set.

Move to Previous Record

The Prev Previous Record button shifts you back to the previous record in the database table.

Query

The ? Query button allows you to search for a database record, based on specific query information.

The objective of the **Query** function is to provide access to specific records without scrolling through every record in the database. This is similar to a "search" function, where you enter a query and the database displays the records that match the query criteria.

<u>Note</u>: The above process is not available in all of the **Power*Log / Core & Curve** windows.

Querying the Database Table…

1. **Click** on the ? **Query button** and it will transform into the S? **Start Query button.**

<u>Note</u>: The primary key fields in the **Sample Description**, **Core Description**, and **Sample/Core Description Transfer** windows will turn a <u>red</u> color, when you **click** on the ? **Query button**.

2. **Click** in the primary key field to place a flashing cursor in the primary key field.
3. Type in a depth, number, or name, depending on the record set that you are attempting to query.
4. **Click** on the S? **Start Query button** to refresh the window with the first record in the query result.
5. Use the Next **Record button** to view the other records that satisfy the query.

Retrieving All Records from the Database Table…

Clicking twice on the ? **Query button** will refresh the window with all the records from the table starting with the very first record of the database table and allow the user to scroll through each successive record, using the Next **Record button**.

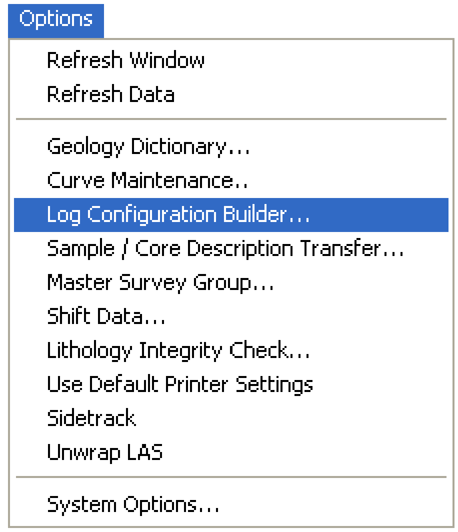
Move to Next Record

The Next Record button advances you to the next record in the database table.

Move to Last Record

The Last Record button can advance you to the final record in the database table.

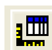
Chapter Ten - Curves

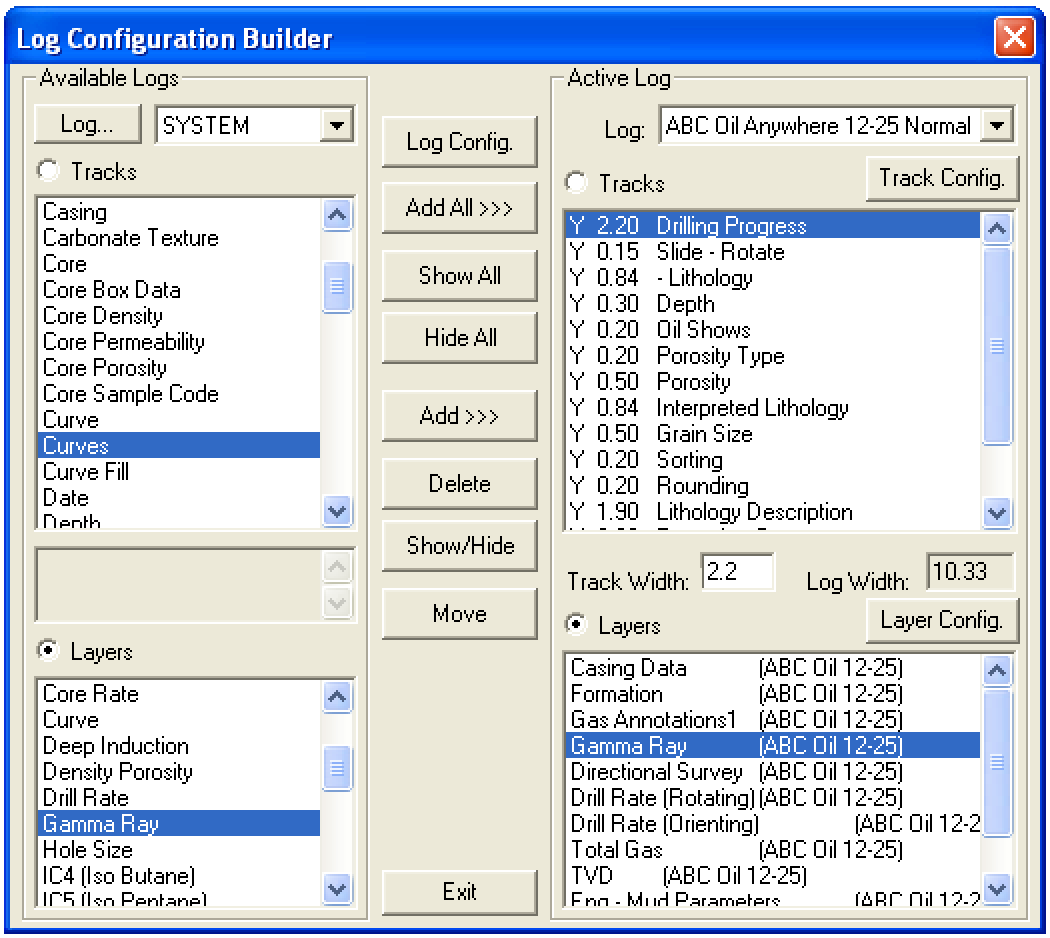


Adding Curves

The user can add curves to your well / log at any time. The curves can either be logarithmic or linear. They can display data as curves or points or histograms. They have all the functionalities that a user could ask for. Investigation into this chapter is a must if you want to be a sophisticated user.

Adding a Curve Layer

1. **Click** on **Log Configuration Builder**, under the **Options** menu selection, or use the  **Log Configuration Builder button** on the Toolbar to activate the **Log Configuration Builder** window shown below:



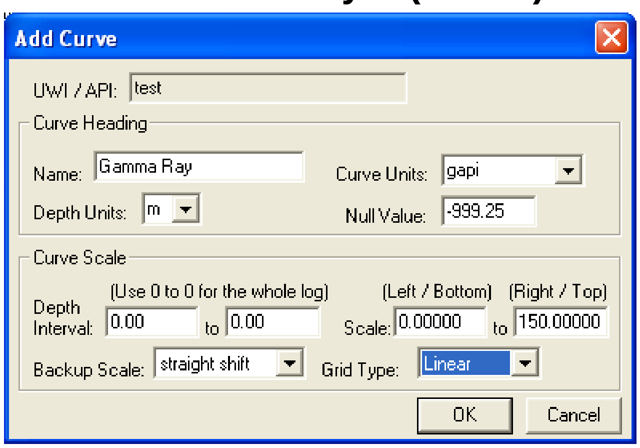
Note: The **Log Configuration Builder** window is divided into two sections: the left side displays the available logs with its associated tracks and layers and the right side displays the tracks and layers that are currently in the active log.

2. **Click** on the Log... **button** to activate the **Log Format List** window and then select an available SYSTEM log or template from which to take a **Curve** layer.

Note: The best choice is the **SYSTEM [SYSTEM]** log or template, because it contains a **Curves** track that is useful for most curve applications.

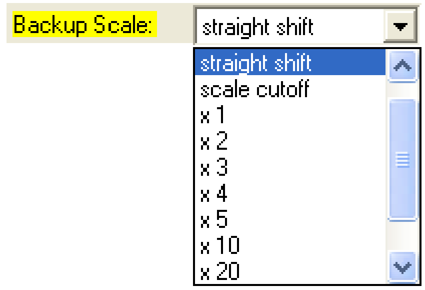
3. **Double click** on the **SYSTEM [SYSTEM]** log or template from the **Log Format List** window and all of the **SYSTEM [SYSTEM]** log/template tracks will be displayed on the left side of the **Log Configuration Builder** window.
4. **Click** on the **Curves** track to highlight it and a number of **Curve** layers will be displayed in the **Layers** section on the left side of the window.
5. On the right side of the **Log Configuration Builder** window, **click** on the track that you wish to add the selected **Curve** layer to and the track will then be highlighted.
6. **Click** on (highlight) one of the **Curve** layers in the **Layers** section list on the left side of the **Log Configuration Builder** window.
7. **Click** on the Add >>> **button** in the middle of the **Log Configuration Builder** window to add the selected **Curve** layer to one of your tracks and you will receive the following system message, "***Do you want to ADD the selected <LAYER> from the available log to the active log?***"
8. **Click** on the Yes **button** to activate the **Get Name** window, type in the name of your new curve, and **click** on the OK **button**.
9. **Click** on the Exit **button** to return to the main log and you will receive an **Add Curve** window, like the one shown below:

Adding a Curve to the New Curve Layer (Linear)



The window displayed above allows you to adjust the properties of the **Curve** that is being associated with the layer.

1. Select a value for the **Curve Units** field from the **Curve Units** field drop box or type in your own value.
2. Set the **Null Value** to an appropriate number. The **Null Value** is a numeric value that symbolizes "**No Data**" for a particular depth point. If you have no data for a particular depth, then type in the **Null Value** for that depth and the program will read it as a 'zero' value: not attempt to draw a line to that data point.
3. Enter values into the **Interval** (From) and **Interval** (To) fields that are relevant to the curve. Otherwise, these fields default to zero (**0**), as a numerical representation of the entire log.
4. Enter appropriate values into the **Scale** (Left) and **Scale** (Right) fields. A typical **Linear** scale is from **0** to **150** or **0** to **100**.
5. Select an appropriate **Backup Scale** to define what will be drawn if the curve values are outside of the curve's scale.



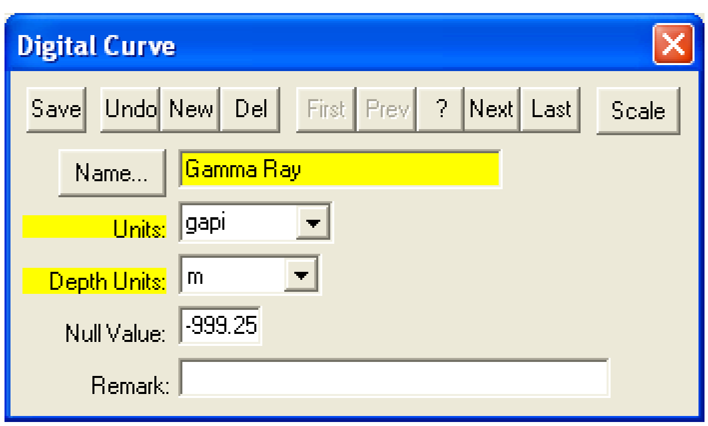
- **Strait Shift**- If the original scale is (left) scale is 0 and the (right) scale is 20 the backup scale will be 20 to 40 if the curves goes off scale to the right and negative (-) 20 to 0 if the curve goes off scale to the left.
- **Scale Cutoff** – If the curve goes off scale in any direction, the curve will not be drawn and appears to be a null value.
- **x1**- If the curve goes off scale in any direction, the curve will peg either to the left or right side and will not return until the values for the curve fit in the curve scale applied to that interval.
- **x2** - If the original scale is (left) scale is 0 and the (right) scale is 20 the backup scale will be 0 to 40 if the curves goes off scale to the right and negative (-) 40 to 0 if the curve goes off scale to the left.
- **x3** - - If the original scale is (left) scale is 0 and the (right) scale is 20 the backup scale will be 0 to 60 if the curves goes off scale to the right and negative (-) 60 to 0 if the curve goes off scale to the left.
- **Etc**. etc. etc.

6. **Click** on the OK **button**, when you have finished and the curve will be added to your log accordingly.

Note: The **Movable Grid**, in the **Layers Organizer** window, is applicable to any Curve layer on your log.

To customize your curve (grid types, curve colors, etc...), you must make the curve the active layer in the log and then **click** on **Layer Configuration**, under the **Edit** menu selection, or **click** on the  **Layer Configuration button** on the **Toolbar**.

Note: You are able to add curves from several other places as well: the Curves **button** in the **Edit Well** window, the Curves **button** in the **Curve Maintenance** window, or the Curves **button** in the **Layer Configuration – Curve Definitions Tab** window. All of these methods will activate the **Digital Curve** window shown below:



Adding a New Curve

1. **Click** on the New **button or press ALT-N** in the **Digital Curve** window to prepare it for the entry of a new record.

2. **Type a name** for the new curve into the **Name** field or **click** on the Name... **button** to activate the **Curve List** window from which to select an existing name.

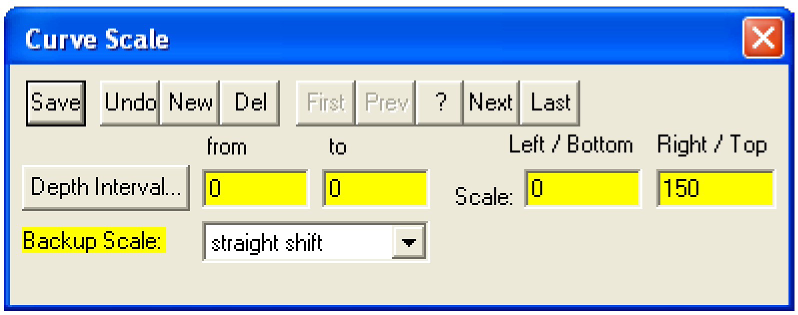
3. Select a unit from the **Units** field drop box or type in your own unit, if the Units are not available in the drop list.

4. Select an appropriate value from the **Depth Units** field drop box.

5. Type in a **Null Value** to be used when there is no value for a particular depth.

6. Fill in any applicable remarks, **click** on the Save **button or press ALT-S**, and select Exit out of the ensuing **Shortcut Options** window.

7. **Click** on the Scale **button** to activate the **Curve Scale** window shown below.

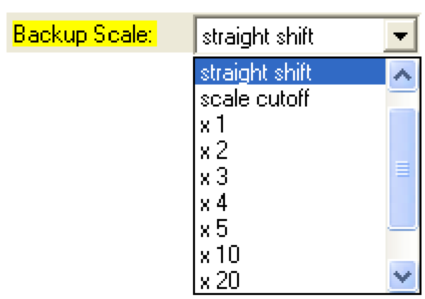


8. Enter appropriate values into the **Interval** (From) and Interval (To) fields.

Note: Interval values of 0 to 0 represents the depth interval for the curve scale will be the entire log.

9. Enter appropriate values into the and **Scale** Left and **Scale** Right fields for a vertical log and a **Scale** bottom and **Scale** top fields for a horizontal log, which will determine the plotting of the curve values.

10. Select a **Backup Scale type** from the **Backup Scale** field drop box that will accommodate curve data values that exceed the **Scale** settings.



11. **Click** on the Save **button or press ALT-S** and then on the Exit **button** out of the ensuing **Shortcut Options** window, when you are finished.

12. Press the **Esc** key on the keyboard twice to exit from the **Curve Scale** and **Digital Curve** windows.

Note: Once the curve is added to the curves list, you cannot access the curve for adding, editing, or viewing purposes, until the curve is associated with a layer. You must use the **Log Configuration Builder – Curve Definition Tab** window to associate this new curve with a layer. The only layer you may use is a **Curve Type** layer.

Field Restriction Tables:

Digital Curve

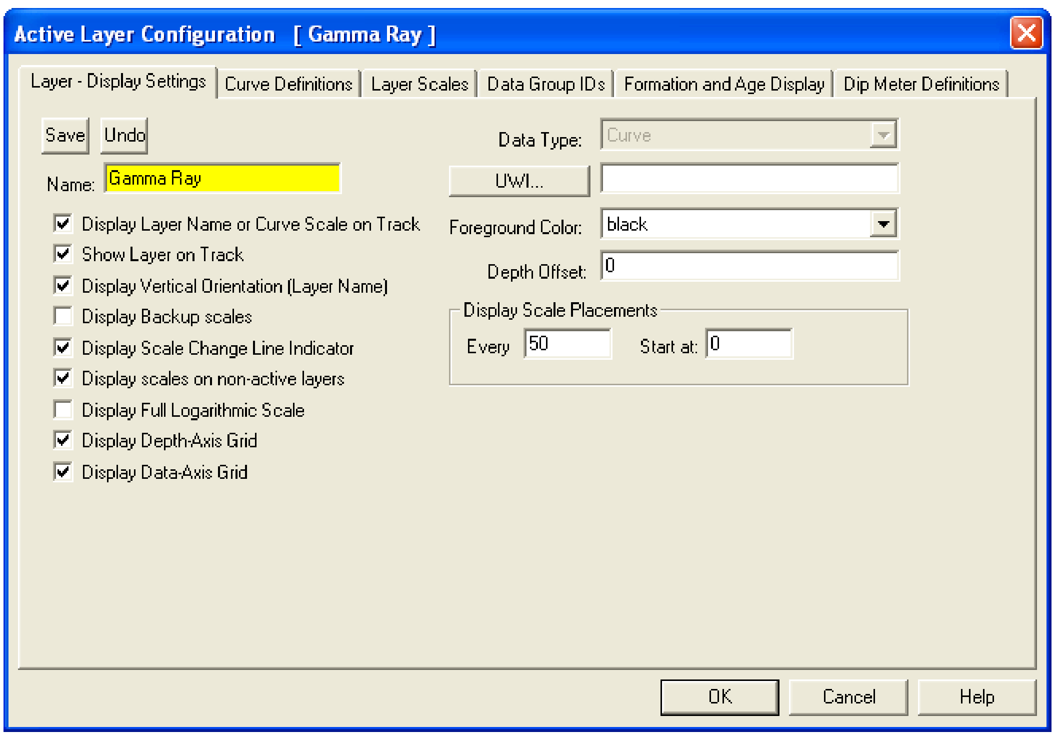
Name	30	Character	Mandatory
Units	12	Character	Mandatory
Depth Units	12	Character	Mandatory
Null Value	10.5	Numeric	Optional
Remark	50	Character	Optional

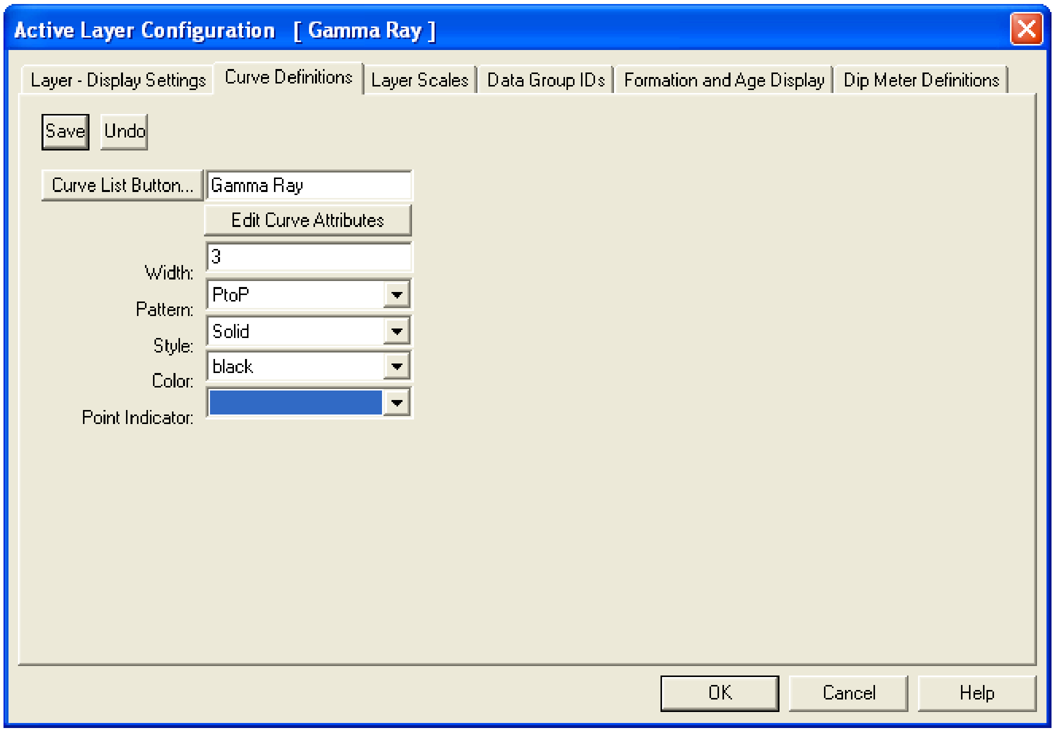
Curve Scale

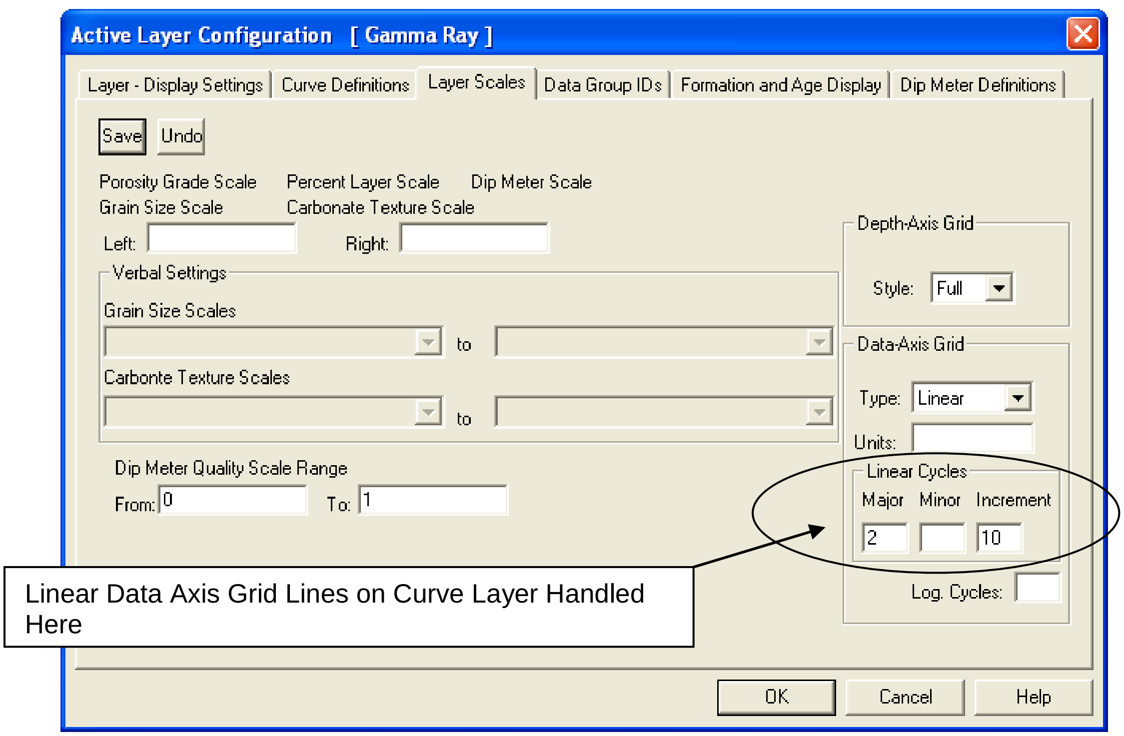
Top Depth	5.5	Numeric	Mandatory
Bottom Depth	5.5	Numeric	Optional
Left	10.5	Numeric	Optional
Right	10.5	Numeric	Optional
Backup Scale	12	Character	Optional

Note: When you add a layer, it is associated with a **Data Type**. Every type of layer in **Power*Log / Core & Curve** has a data layer classification, so that the system knows what default settings to use when adding the layer to the log.

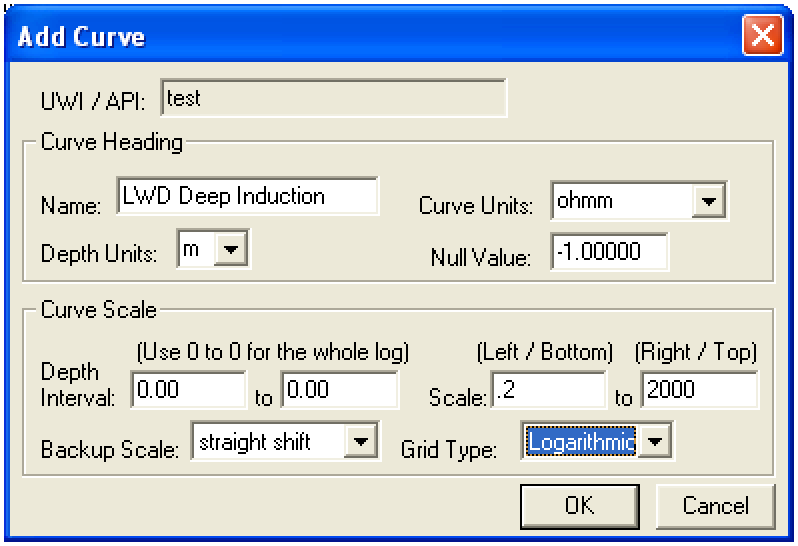
To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Curve** layer is active.




Active Layer Configuration [Gamma Ray]
Layer - Display Settings
Curve Definitions
Layer Scales
Data Group IDs
Formation and Age Display
Dip Meter Definitions
Save
Undo
Curve List Button...
Gamma Ray
Edit Curve Attributes
Width:
3
Pattern:
PtoP
Style:
Solid
Color:
black
Point Indicator:
OK
Cancel
Help


Active Layer Configuration [Gamma Ray]
Layer - Display Settings
Curve Definitions
Layer Scales
Data Group IDs
Formation and Age Display
Dip Meter Definitions
Save
Undo
Porosity Grade Scale
Percent Layer Scale
Dip Meter Scale
Grain Size Scale
Carbonate Texture Scale
Left:
Right:
Verbal Settings
Grain Size Scales
to
Carbonte Texture Scales
to
Dip Meter Quality Scale Range
From:
0
To:
1
Depth-Axis Grid
Style:
Full
Data-Axis Grid
Type:
Linear
Units:
Linear Cycles
Major
Minor
Increment
2
10
Log. Cycles:
Linear Data Axis Grid Lines on Curve Layer Handled Here
OK
Cancel
Help

Adding a Curve to the New Curve Layer (Logarithmic)



The window displayed above allows you to adjust the properties of the **Curve** that is being associated with the layer.

1. Select a value for the **Curve Units** field from the **Curve Units** field drop box or type in your own value.
2. Set the **Null Value** to an appropriate number. The **Null Value** is a numeric value that symbolizes "**No Data**" for a particular depth point. If you have no data for a particular depth, then type in the **Null Value** for that depth and the program will read it as a 'zero' value: not attempt to draw a line to that data point.
3. Enter values into the **Interval** (From) and **Interval** (To) fields that are relevant to the curve. Otherwise, these fields default to zero (**0**), as a numerical representation of the entire log.
4. Enter appropriate values into the **Scale** (Left) and **Scale** (Right) fields. A typical **logarithmic** scale is from **.1** to **10000** or can now also be a **hybrid logarithmic scale** such as **0.2** to **2000**.
5. Select any **Backup Scale** which is mandatory but is irrelevant as there is no backup scale on a logarithmic curves. Backup Scale: straight shift
6. **Click** on the OK **button**, when you have finished and the curve will be added to your log accordingly.

Note: The **Movable Grid**, in the **Layers Organizer** window, is applicable to any Curve layer on your log.

To customize your curve (grid types, curve colors, etc...), you must make the curve the active layer in the log and then **click** on **Layer Configuration**, under the **Edit** menu selection, or **click** on the  **Layer Configuration button** on the **Toolbar**.

Note: You are able to add curves from several other places as well: the Curves **button** in the **Edit Well** window, the Curves **button** in the **Curve Maintenance** window, or the Curves **button** in the **Layer Configuration** – **Curve Definitions Tab** window. All of these methods will activate the **Digital Curve** window shown below:

Note: Once the curve is added to the curves list, you cannot access the curve for adding, editing, or viewing purposes, until the curve is associated with a layer. You must use the **Log Configuration Builder** – **Curve Definition Tab** window to associate this new curve with a layer. The only layer you may use is a **Curve Type** layer.

Field Restriction Tables:

Digital Curve

Name	30	Character	Mandatory

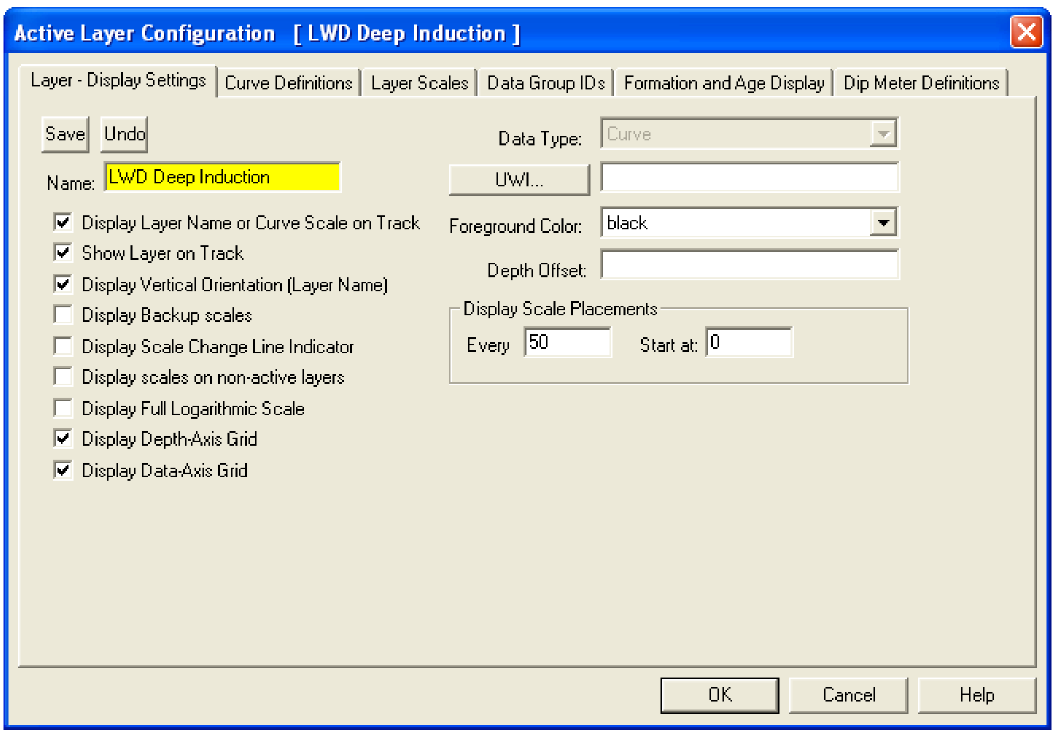
Units	12	Character	Mandatory
Depth Units	12	Character	Mandatory
Null Value	10.5	Numeric	Optional
Remark	50	Character	Optional

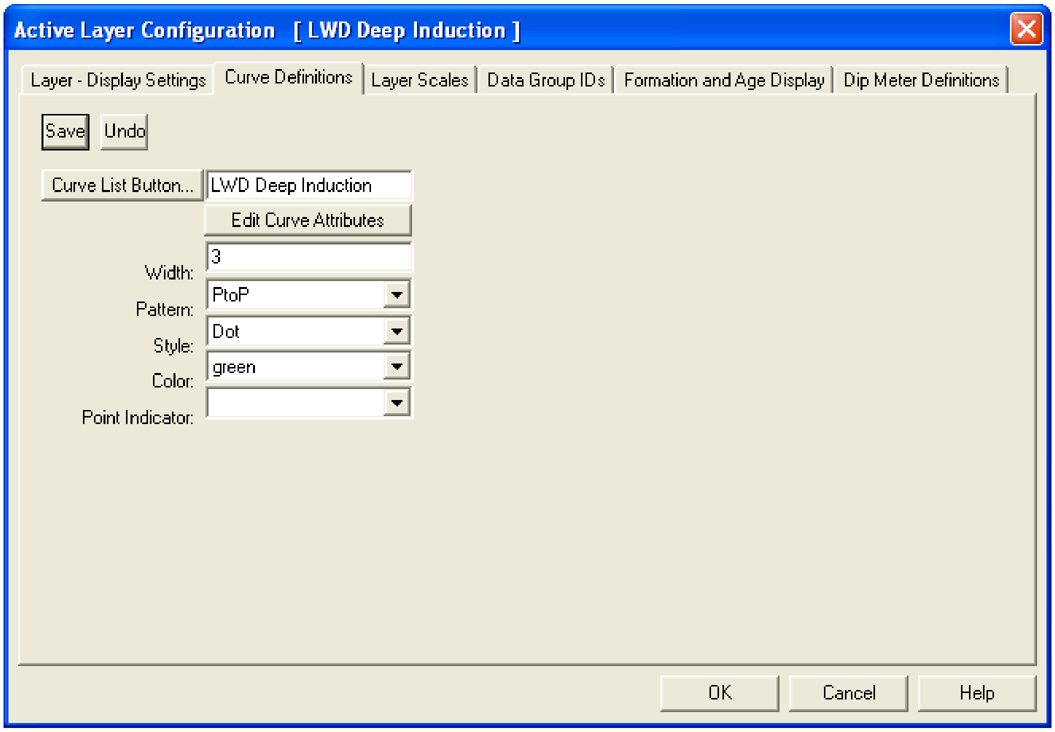
Curve Scale

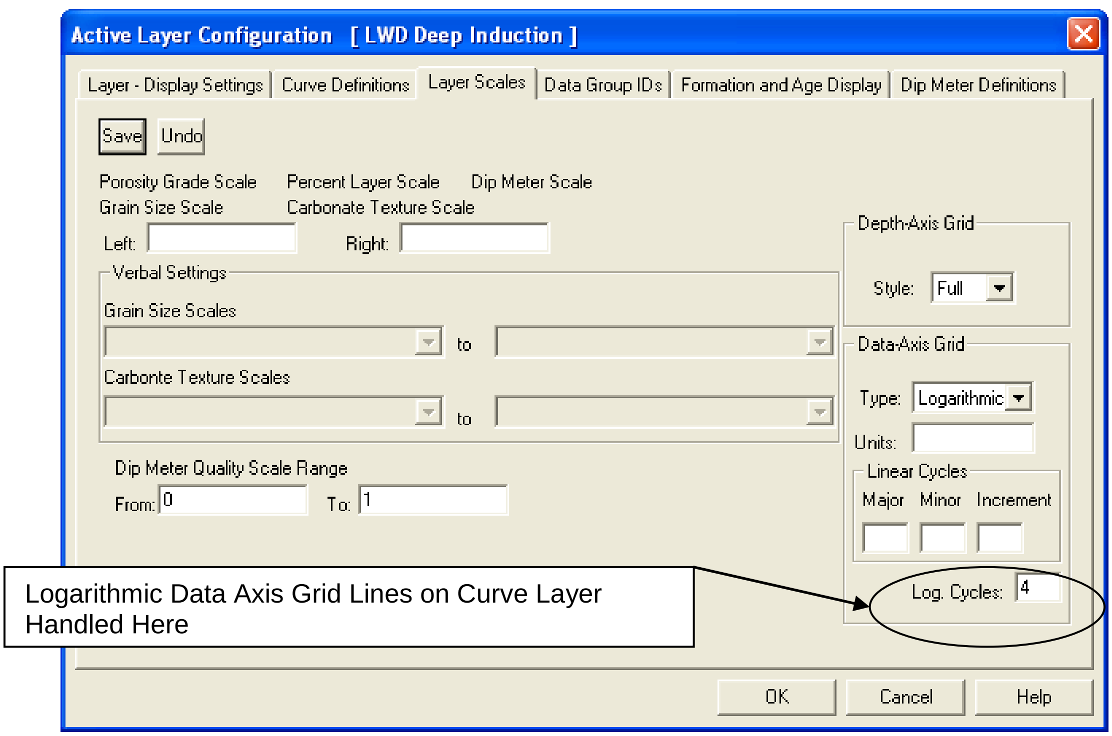
Top Depth	5.5	Numeric	Mandatory
Bottom Depth	5.5	Numeric	Optional
Left	10.5	Numeric	Optional
Right	10.5	Numeric	Optional
Backup Scale	12	Character	Optional

Note: When you add a layer, it is associated with a **Data Type**. Every type of layer in **Power*Log / Core & Curve** has a data layer classification, so that the system knows what default settings to use when adding the layer to the log.

To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Curve** layer is active.



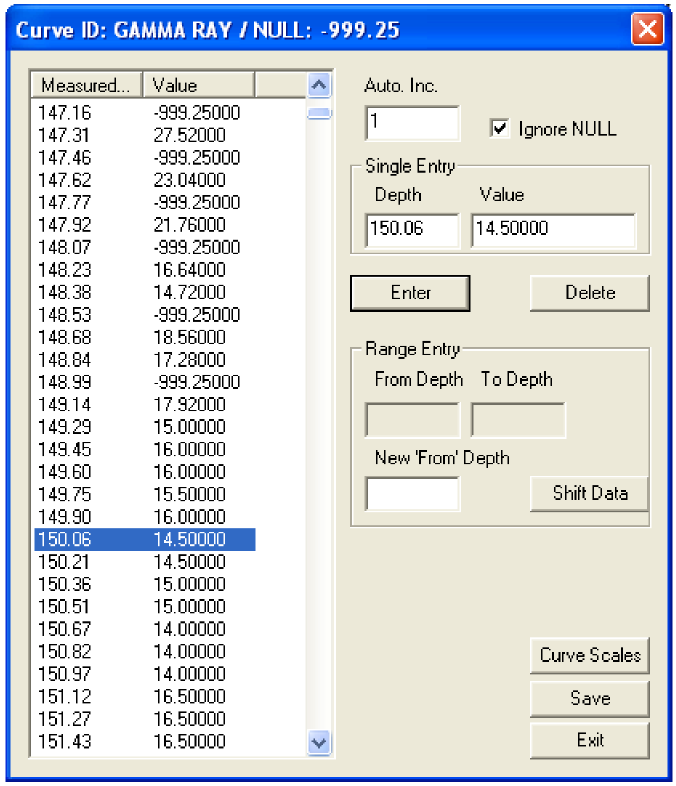




Editing or Adding Values to Curves

The following steps will show you how to edit curves and add values to an existing curve layer.

To access the **Curve Editor** window, make the curve layer that you wish to edit, the active layer within an active track (see **Layers Organizer** or **Layer Selection List**). Then, **double click** on the layer to activate the curve layer's **Curve Editor** window shown below:



The **Ignore Nulls** check box ☑ when activated draws a continuous curve in the pattern predefined in the Curve Layer. When it is deactivated the curve will be a discontinuous curve if there are any null values associated with the curve data.

How to Add values to a Curve from the Curve Editor window.

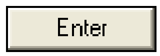
1. To access the **Curve Editor** window, make the curve layer that you wish to edit, the active layer within an active track (see **Layers Organizer** or **Layer Selection List**).
2. **Double click** on the layer to activate the curve layer's **Curve Editor** window shown above.
3. If you wish to go to a specific depth in the list, **click** on the thumb and drag it or you can also search for a depth by simply scrolling down the list.
4. Set the **Auto increment field** to the depth increment for the curve values you are entering. This will then automatically increment the depth entered by this value when you enter the value.
5. **Type** in a depth in the depth field and then **tab** to the value field and **type** in a **value**.
6. Press the **Enter** key on your keypad or **click** on the [Enter] **button** when done and the depth / value will be entered into the list, resulting in the depth being advanced by the number specified in the **Auto Depth Increment** field.
7. **Type** in a new **value** for the corresponding depth and either **Press** the **Enter** key on your **keypad** or **click** on the [Enter] **button**.

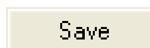
> **N.B. ***If the number in the **Value** field is the <u>same</u> as the previous number, then just press **Enter** key on your keypad and the program will advance it for you automatically, thereby preventing you from having to re-enter the <u>same</u> number into the **Value** field twice.

8. When you are finished entering your data **click** on the [Save] **button**.
9. Then either **click** on the [Exit] **button** or **click** on the [X] to close the window.

If you have no values for specific depths, you must enter the **Null Value** for the curve, which is displayed in the Header Portion of the window. The **Null Value** is a numeric value that symbolizes **No Data** for a particular depth point. If you have no data for a particular depth, type in the **Null Value** for that depth and your curve will not be drawn for that portion.

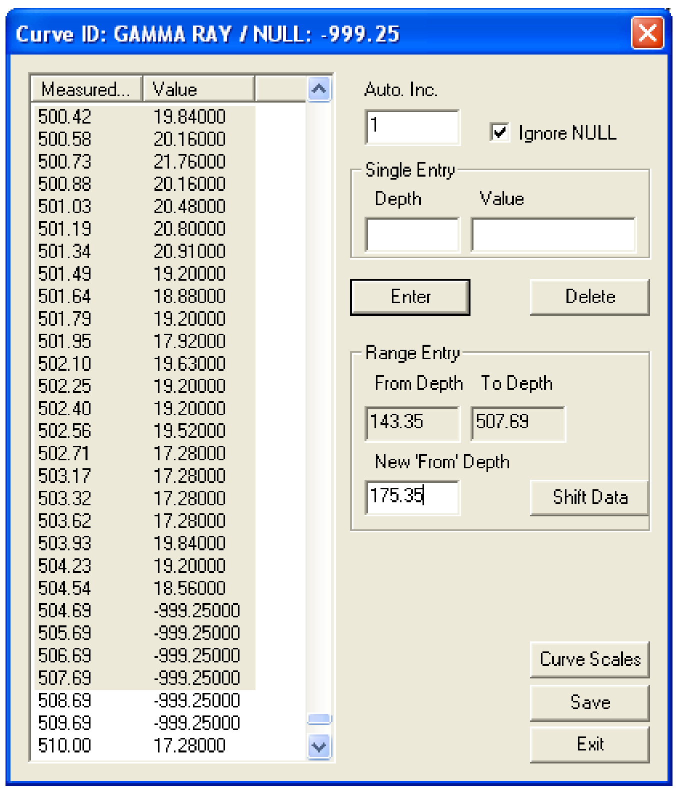
How to Edit a value in the list from the Curve Editor window.

1. To access the **Curve Editor** window, make the curve layer that you wish to edit, the active layer within an active track (see **Layers Organizer** or **Layer Selection List**).
2. **Double click** on the layer to activate the curve layer's **Curve Editor** window shown above.
3. If you wish to go to a specific depth in the list, **click** on the thumb and drag it or you can also search for a depth by simply scrolling down the list.
4. To edit a value given to a specific depth, **Click** on the **depth / value** to place it in the single entry fields.
5. **Click** in the **Value** field and **type** in the new value you wish to assign to the depth.
6. Press the **Enter** key on your keypad or **click** on the 

button when done and the depth / value will be entered into the list, resulting in the depth being advanced by the number specified in the **Auto Depth Increment** field.
7. When you are finished entering your data **click** on the 

button.
8. Then either **click** on the 

button or **click** on the  to close the window.

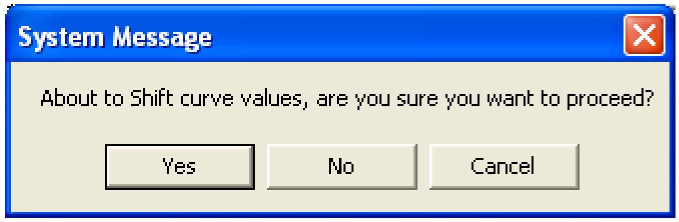


How to Shift values from the Curve Editor window.

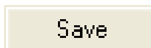
1. To access the **Curve Editor** window, make the curve layer that you wish to edit, the active layer within an active track (see **Layers Organizer** or **Layer Selection List**).
2. **Double click** on the layer to activate the curve layer's **Curve Editor Window** shown above.

3. To enter the depth range for the interval of the curve that requires shifting the user must first **click** on the **top value** in the list. Then scroll down to the last value that needs to be shifted and hold the **SHIFT key down** on your keypad and **click** on the last value. This will fill in the From Depth and To Depth fields.
4. Then, **type** in the New from depth to where this portion of curve will be placed and then **click** on the 

button. This will activate a system message.



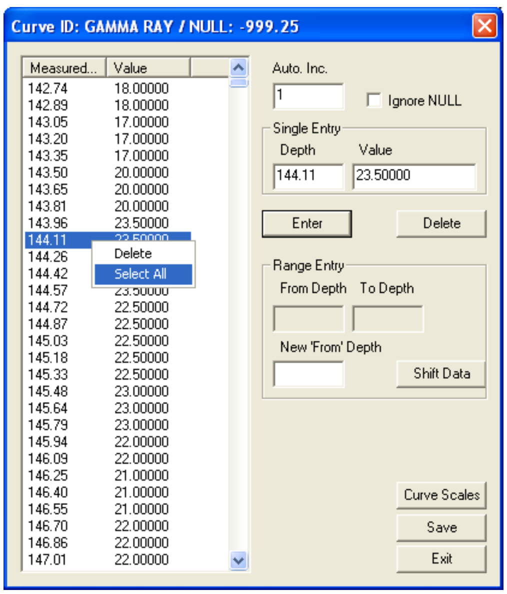
5. **Click** on the 

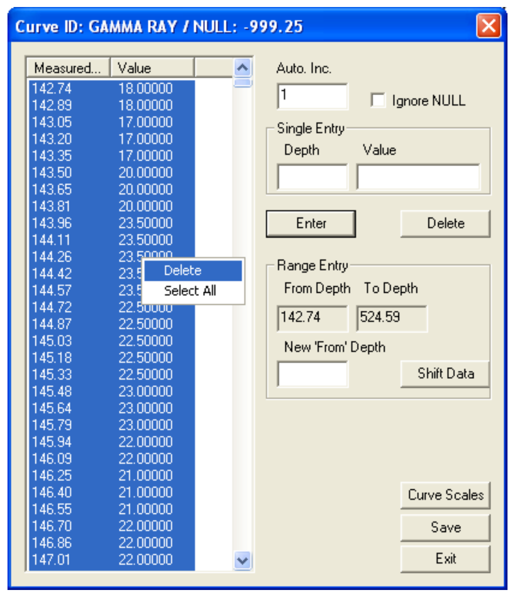
button.
6. Then **click** on the 

button and then **click** on the 

button.

<u>Note</u>: When you shift portions of curves, anything that existed at the "***New From Depth***" value will be overwritten. The example above shifts the curve data down 32.

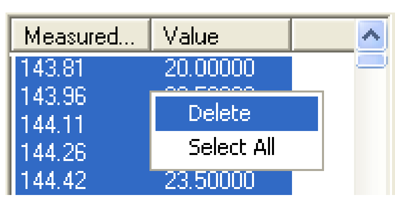


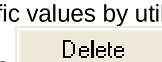


How to delete values in the Curve Editor window.

1. To **delete a single value depth** and its assigned value, highlight it on the list and then **click** on the 

Delete button or **right click** on the value in the list and **select delete**.



2. The user has the ability now to **delete multiple values** at once by highlighting specific values by utilizing the CTRL key and clicking on the specific depth / value rows in the list. Then **click** on the 

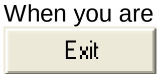
Delete button or **right click** on the value in the list and **select delete** from the pop out menu.

3. The user has the ability now **to delete a range of values** at once by highlighting a specific value by utilizing the SHIFT key and clicking on the specific depth / value rows in the list. Then **click** on the 

Delete button or **right click** on the value in the list and select delete from the pop out menu.
4. The user has the ability now **to delete all the values** at once by right clicking on the list of values and selecting the **select all** to highlight all the values. Then **click** on the 

Delete button or **right click** on the value in the list and **select delete** from the pop out menu.

5. When you are finished editing or adding to your curve, **click** on the 

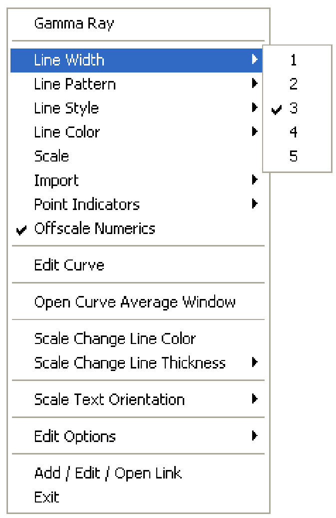
button and then **click** on the 

button

Curve Layer

Digital Curve Pop-Out Menu

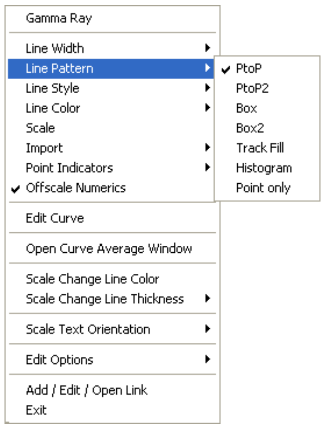
The digital curve pop-out menu can be accessed if the user right clicks on an active curve layer on a log. The user can see an example of a digital curve pop-out menu. The Curve Name is displayed in the upper portion of the pop-out menu

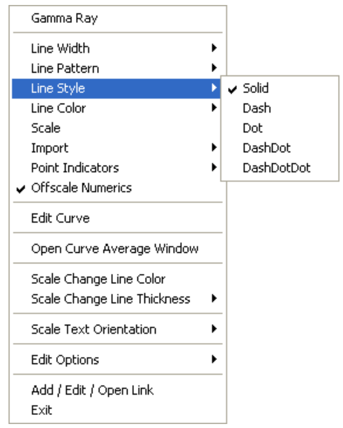


The **Line Width** Selection indicates the width of the curve in pixels. To change the line width, **right click** on an active curve layer, move the mouse pointer over the Line Width selection and clicking on a new width. **The right click menu options are limited to 5 pixels. If you wish to get a thicker line you must go into the layer configuration window and type in a new line width between 1 and 9**

The **Line Pattern** Selection indicates the pattern of the curve. To change the line pattern, **right click** on an active curve layer, move the mouse pointer over the Line Pattern selection and **click** on a new line pattern

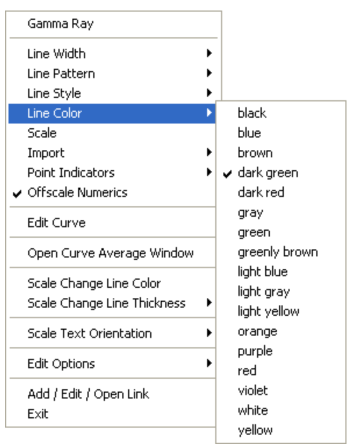
PtoP	point to point curve (stop curve at null values)
PtoP2	point to point curve (disregard null values [continuous curve])
Box	histogram or box curve (stop curve at null values)
Box2	histogram or box curve (disregard null values [continuous curve])
Track Fill	fills track with color determined in the pgeology32.ini
Histogram	draws a colored histogram the width of the line width from the data point back to the lowest value track edge.
Points Only	shows only the data points and defaults to circles if nothing defined in the point indicator portion of curve definitions

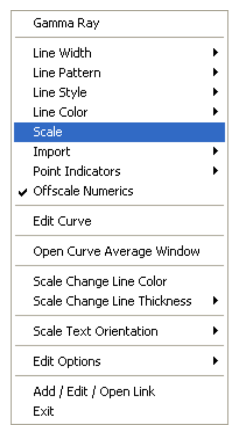




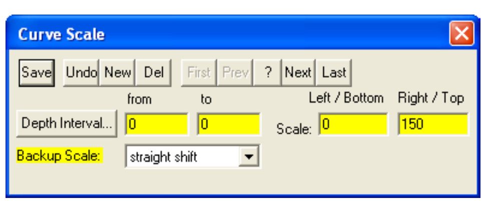
The **Line Style** Selection indicates the associated with the curve. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Line Style selection and clicking on a new Selection.

The **Line Color** Selection indicates the line color associated with the curve. To change the line color **right click** on an active curve layer, move the mouse pointer over the Line Color selection and **click** on a new line color.





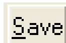
The **Scale** Selection enables the user to get quickly at the curve scales for the active curve. Then, the user can change, add or delete existing scales in the Curve Scales window.



Notice that the **Depth Interval** (From) and **Interval** (To) values, respectively, have defaulted to "**0**" to "**0**" with the **Scale** (Left), **Scale** (Right), and **Backup Scale** defaulting to the values last entered by the user. An interval of 0 to 0 represents the entire Depth Interval for the curve.

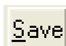
Editing a Curve Scale

<u>Note</u>: You can also access the **Curve Scale** window from the **Curve Editor** window, but only for the curve that is active in the editor.

1. **Select** the appropriate **depth interval you wish to change** by scrolling through the records using the database navigational button or click on the Depth Interval Button and selecting the appropriate depth interval by double clicking on it.
2. **Enter a new value** into the **Left / Bottom** and or **Right / Top scale** values**.**
3. **Click** on the  **button or press ALT-S** and select the  **button** from the ensuing **Shortcut Options** window.

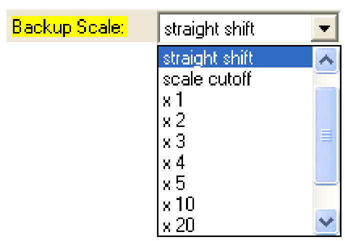
Adding a new Curve Scale

Notice that the **Depth Interval** (From) and **Interval** (To) values, respectively, have defaulted to "**0**" to "**0**"

1. **Enter a new value** into the **Interval** (To) field to indicate where the existing scale will stop.
2. **Click** on the  **button or press ALT-S** and select the  **button** from the ensuing **Shortcut Options** window.
3. Type a new value into the **Interval** (From) field (typically the <u>same</u> value that was entered into the <u>original</u> **Interval** (To) field to indicate where the first curve scale ended.)
4. Type a new value into the **Interval** (To) field, which is typically larger than the last depth on your log, to indicate where the second curve scale ends.

<u>Note:</u> Depth Intervals should never overlap or have spaces in them as the curve would either have two scales at a depth or no scale at all.

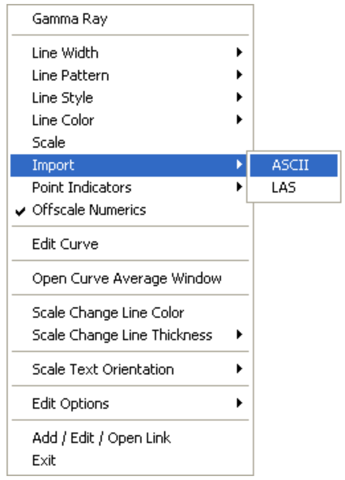
5. Enter the new **Scale** (Left) and **Scale** (Right) values.
6. Select an appropriate **Backup Scale** to define what will be drawn if the curve values are outside of the curve's scale.



- **Strait Shift**- If the original scale is (left) scale is 0 and the (right) scale is 20 the backup scale will be 20 to 40 if the curves goes off scale to the right and negative (-) 20 to 0 if the curve goes off scale to the left.
- **Scale Cutoff** – If the curve goes off scale in any direction, the curve will not be drawn and appears to be a null value.
- **x1**- If the curve goes off scale in any direction, the curve will peg either to the left or right side and will not return until the values for the curve fit in the curve scale applied to that interval.
- **x2** - If the original scale is (left) scale is 0 and the (right) scale is 20 the backup scale will be 0 to 40 if the curves goes off scale to the right and negative (-) 40 to 0 if the curve goes off scale to the left.
- **x3** - - If the original scale is (left) scale is 0 and the (right) scale is 20 the backup scale will be 0 to 60 if the curves goes off scale to the right and negative (-) 60 to 0 if the curve goes off scale to the left.
- **Etc**. etc. etc.

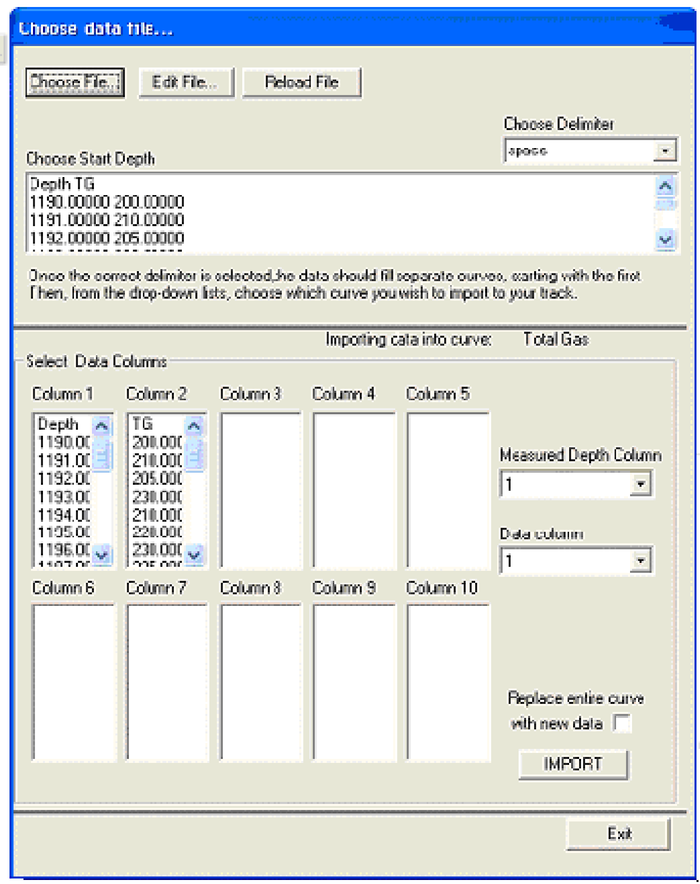
7. **Click** on the  **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

The **Import** Selection enables the user to import ASCII or LAS file data directly into the curve.



Right Click ASCII Import (Single Curve)

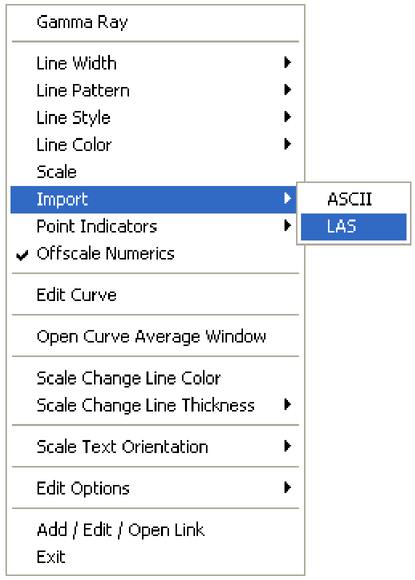
STEPS



1. **Click** on the Choose File... **button** and select your data file.
2. Next, select your **delimiter** from the drop down box on the right. When the correct delimiter is chosen, the file's data columns will fill the individual column windows in the bottom. *In this example, the file is space delimited.*
3. In the "**Select Data Columns**" section, identify for the program which column is the measured depth, and identify which column of data you would like to import.
4. If you would like to replace the curve you are importing into, activate the **Replace entire curve with new data** check box ☑. Otherwise, the data will be inserted into any existing data already in that curve.
5. **Click** on the IMPORT **button to** begin the import process.

Note: for **ASCII Directional Survey Imports** please see Chapter 1 – Import Surveys

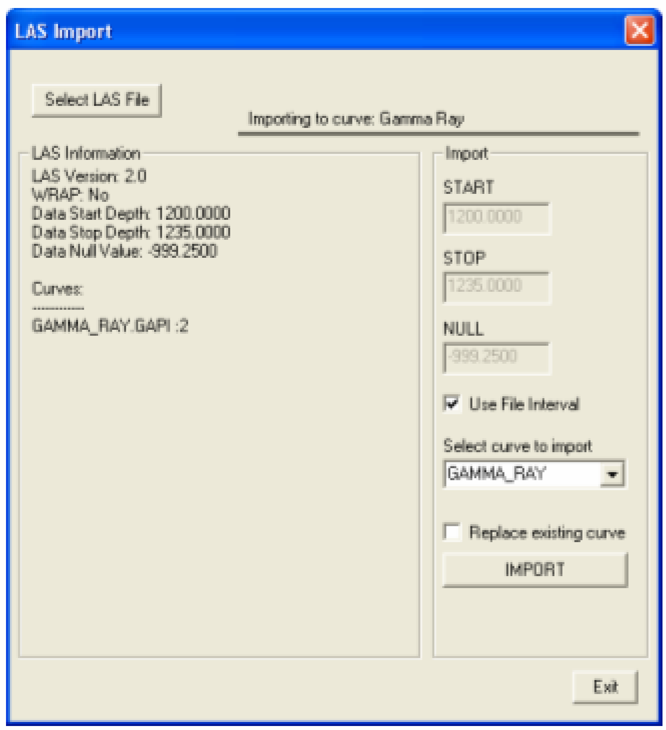
**An ASCII file is any file that contains text data in column form, separated by a delimiter such as a space, tab or comma.*



Right Click LAS Imports (Single Curve)

STEPS

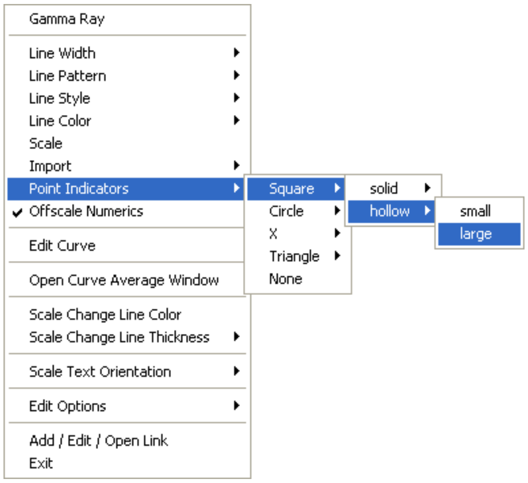
1. **Click** on the Select LAS File **button** to choose your LAS file to import. If the LAS file is of the proper format, information about the file will be displayed on the left hand side. *If the LAS file is **not** the proper format, import may be possible through the ASCII import procedure.*
2. You may choose your own data interval to import by un-checking the check box labeled "**Use File Interval**" and typing in your own depths. The default uses the files interval.
3. Select the curve from the LAS file you wish to import from the drop box labeled "**Select curve to import**". This list will contain the names of all curves identified in the LAS file. If you would like to replace the curve you are importing into, activate the **Replace existing curve** check box ☑. Otherwise, the data will be inserted into any existing data already in that curve.

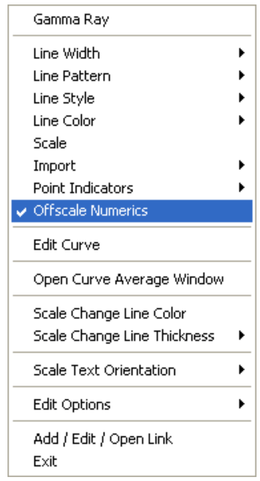


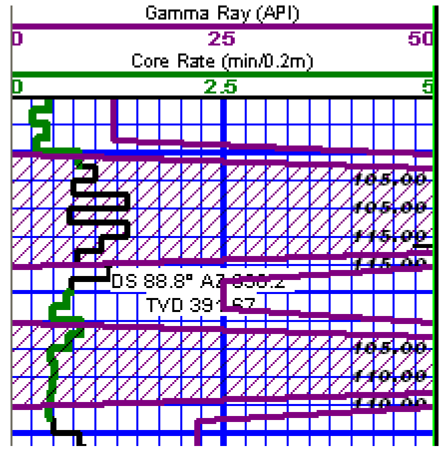
Click on the IMPORT **button** to begin the import process.

**LAS files must be Version 2.0or 3.0 in unwrapped format.*

The **Point Indicators** Selection indicates where the data points on the curve are being drawn with. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Point Indicators selection and clicking on any of the pop out menu selections. If point indicators are turned on these will also presented in the Track header.

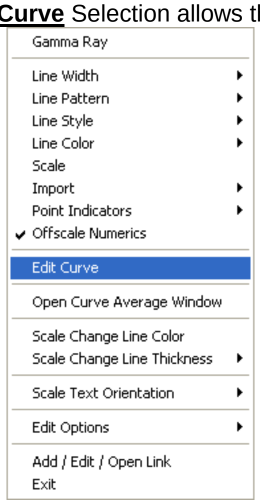


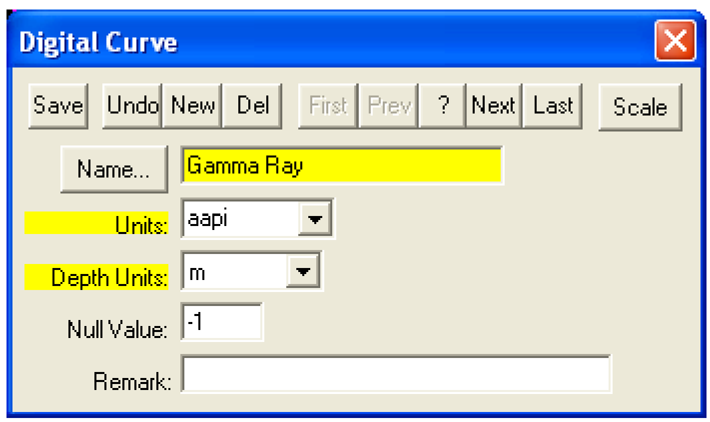




The **Offscale Numerics** Selection allows the user to view the values of any curve that wraps itself off scale on the double wrap. These fonts can then be modified in the System options under the Font tab

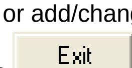
The **Edit Curve** Selection allows the user to view and change the digital Curve attributes as well as access the scale.





Changing Digital Curve Attributes (Units / Null Value)

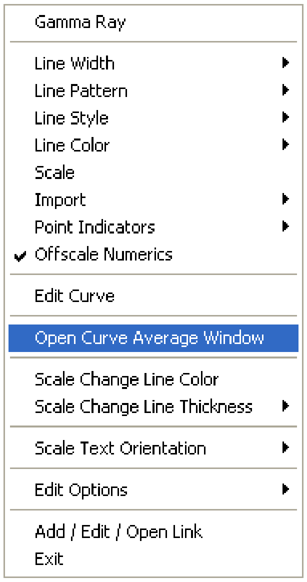
You can use the Layer Configuration window to edit Curve Units, Scales, Colors, and Styles. The User can also edit the Curve attributes in the Well Window. The User can also right click on the layer and select Edit Options.

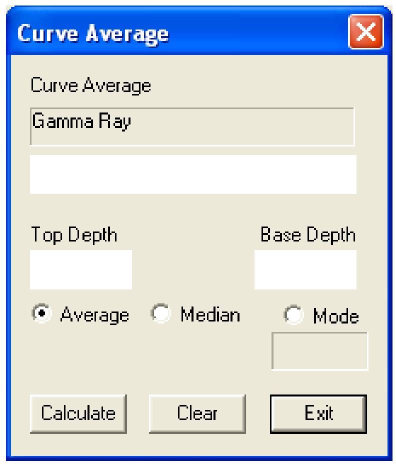
1. If the curve layer is active **right click on the layer** to activate the pop out menu and **select Edit Curve.**
2. You can now select (or type in), new units, change the null value, or add/change the remarks.
3. **Click** on the  **button or press ALT-S** and then **click** on the  **button** when prompted with the **Shortcut Options** system window.

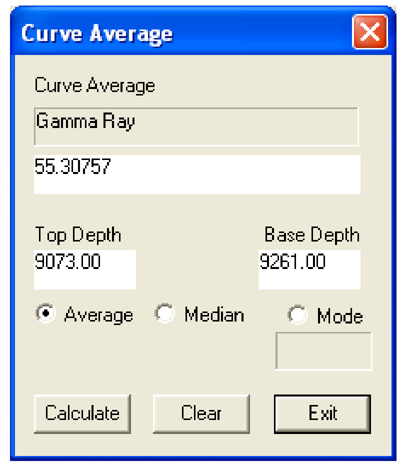
Curve Average Window

The **Open Curve Average Window** Selection allows the user to determine the curve average, median or mode over a depth interval.

1. If the curve layer is active **right click on the layer** to activate the pop out menu and **select Open Curve Average Window.** This will activate the window shown below**.**







2. **Click** on the **appropriate radio button**  to determine what you want to calculate.

   - Average = is the quotient obtained by dividing the sum total of a set of figures by the number of figures.
   - Median = applies to the value that represents the point at which there are as many instances above as there are below.
   - Mode = the most frequent value of a set of data.

3. Define the top and base depths by either **typing** in their **depth** values **or** by **clicking and dragging an interval on the screen**.

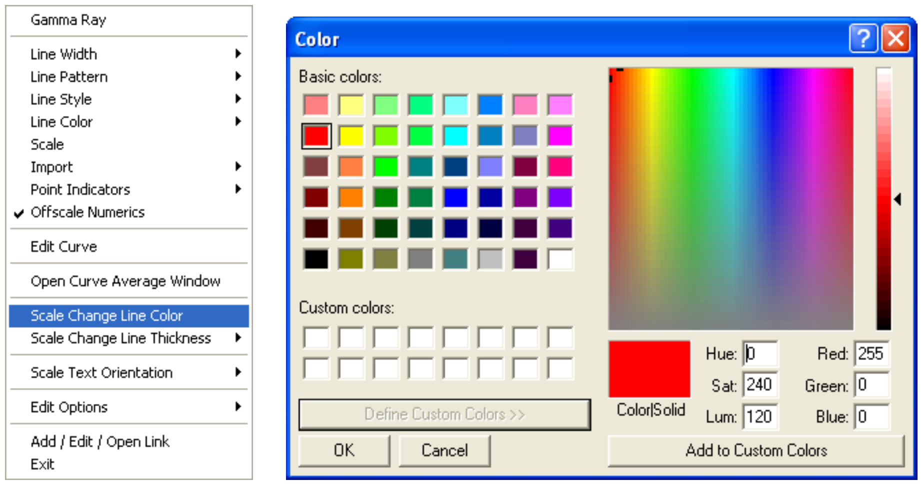
4. **Click** on the  **button** or if you dragged the result will be displayed under the Curve name field. If mode was selected then the mode is displayed and the frequency is displayed in the field under the mode radio button.

The **Scale Change Line Color** Selection allows the user to view a scale change with a solid line color selected by the user. This scale change line is a solid line across the layer at the depth the scale change. The scale change line, to be viewed on the layer must first be initiated in the Edit Layer selection where this line can be turned on or off.

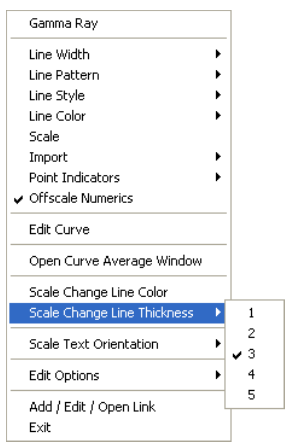
Right click on the active curve layer and **select Scale Change Line Color**. This will activate the color picker.

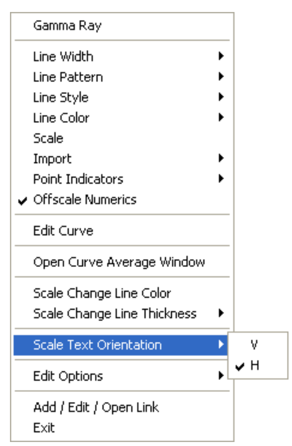
Select a color from the Basic color palette or use a defined custom color and then **Click** on the 

Button.



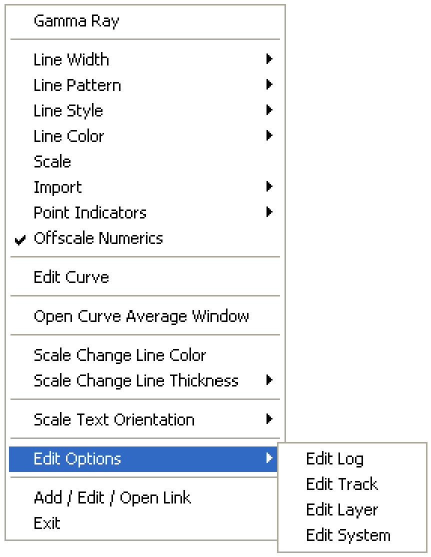
The **Scale Change Line Thickness** Selection indicates the width of the scale change line in pixels. To change the scale change line indicators thickness, **right click** on an active curve layer, move the **mouse pointer** over the **Scale Change Line Thickness selection** and **clicking** on a new **thickness**.

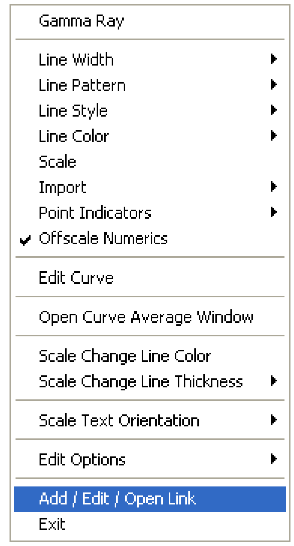




The **Scale Text Orientation** Selection allows the user to change the scale text in the main body of the log from a Vertical Orientation to a Horizontal Orientation. Horizontal Orientation would be more applicable to Power*Log or Power*Core and the Vertical Orientation would be more applicable to Power*Curve

The **Edit Options** Selection allows the user to view and change the Log, Track or Layer Configurations as well as the Programs Systems Options. This option is available on all log layers.





The **Add / Edit / Open Link** Selection allows the user to Link Windows Compatible files to a layer that can be opened at a user's discretion. Refer to Chapter 8 for detailed instructions. This option is available on all log layers.

Field Restriction Tables:

Digital Curve

Name	30	Character	Mandatory
Units	12	Character	Mandatory
Depth Units	12	Character	Mandatory
Null Value	10.5	Numeric	Mandatory
Remark	50	Character	Optional

Curve Scale

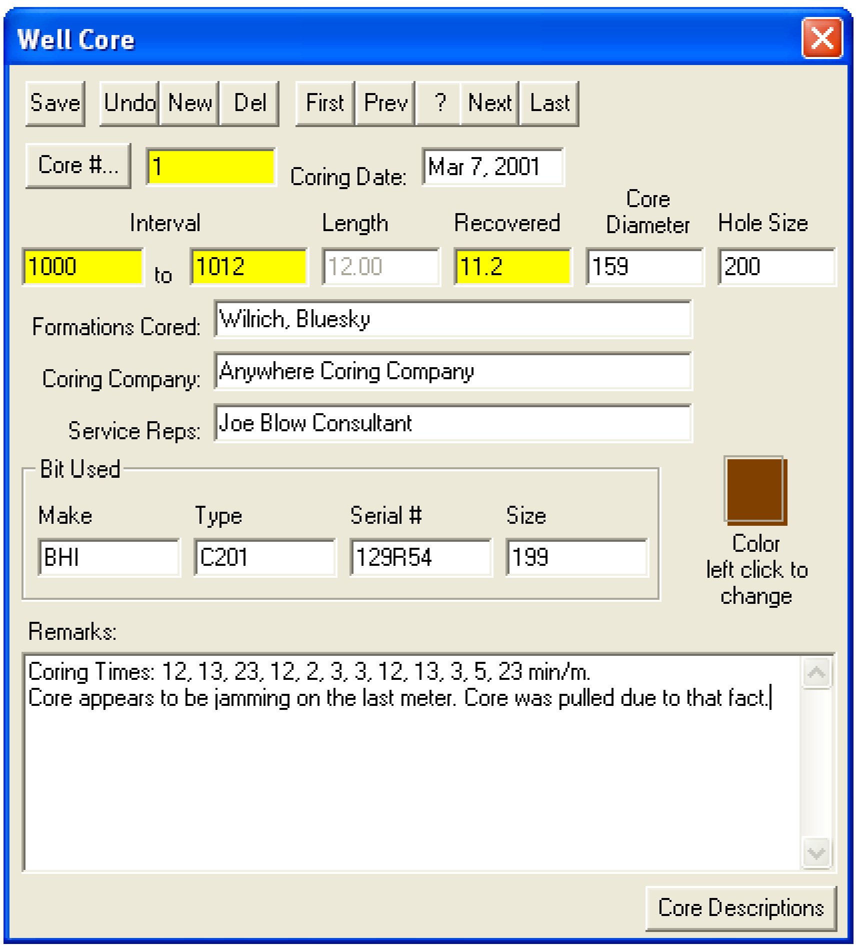
Top Depth	5.5	Numeric	Mandatory
Bottom Depth	5.5	Numeric	Mandatory
Left	10.5	Numeric	Mandatory
Right	10.5	Numeric	Mandatory
Backup Scale	12	Character	Mandatory

Chapter Eleven - Core

Creating, Describing, and Illustrating Core Data

Well Core information is entered into the window shown below. This information fills in the header of the Core Report and indicates the location of a cut core on the Core layer. If you are a Power*Core user you may wish to refer to the Power*Core Tutorial.
The actual **Core Descriptions** are entered into the **Core Description** window, under **Reports**. These **Core Descriptions** will then be used in conjunction with the core header to create a core description report with header. The **Core Description's** depth values **must** fall <u>between</u> the top and bottom of the cored interval.

<u>Note</u>: The **Core Report with Header** will <u>not</u> print out from the print well end report window, until you have completed at least **one** (**1**) **Core Description** that falls <u>between</u> the **Core's Interval** (To) and **Interval** (From) depth values.



<u>Note</u>: The **Recovered** field should be filled in with a **Recovery Length** and not a **Percentage (%)**. The percentage (%) is calculated for you on the final report and on the **Core** layer on the log.

Adding, Editing and Deleting a Core

Adding a Core

1. **Click** on **Core** under the **Reports** menu selection. This will activate the Well Core window shown above.
2. **Click** on the 

 button or press ALT-N and then fill in the report window with your data.

3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Core

1. **Click** on the Core #... **button** to view a list of **Cores** to date and then **double click** on the record that you wish to edit. Once the selected record is displayed in the **Well Core** window, make any changes you feel are necessary.
2. Or, **click twice** on the ? **Query button** and then **click** on the Next **Record button** to view all of the records in the database. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Make to necessary changes.
4. **Click** on the Save **button or press ALT-S and** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Core

1. **Click** on the Core #... **button** to view a list of **Cores** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Well Core** window, **click** on the Del **Delete button**.
2. Or, **click twice** on the ? **Query button** and then **click** on the Next **button** to view all of the records in the database. Select the record you wish to delete and it will be displayed in the **Well Core** window.
3. **Click** on the Del **Delete button**. See the **Database Navigational Tools** section later in this **User Manual** for more information.

The Undo **button** will restore the window to the settings of the last saved record.
You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

Adding a Core Rate curve layer to the log

Note: You may also enter **Core** data values and increments of **1/4** or **1/5** into an existing **Drill Rate** curve layer via its **Curve Editor** window.

1. **Click** on **Log Configuration Builder,** under the **Options** menu selection, or **click** on the **Log Configuration Builder button** on the **Toolbar** to activate the **Log Configuration Builder** window.
2. **Click** on **Drilling Progress** from the **Tracks** list on the **left** hand side (**Available Logs**) of the **Log Configuration Builder** window and you will notice that all of the **Drilling Progress** track's associated layers are displayed in the **Layers** list below.
3. **Click** on the **Core Rate** layer to highlight it.
4. On the **right** hand side (**Active Log**) of the **Log Configuration Builder** window, **click** on the **Drilling Progress** track to highlight it.
5. **Click** on the Add >>> **button** and you will be prompted with the following system message, "***Do you want to add the selected layer into your log*?**" **Click** on the Yes **button**.
6. You will now be given a **Get Name** window with "***Core Rate***" as the name in the **New Layer Name** field and **click** on the OK **button**, and the **Core Rate** layer will then be added to the **Drilling Rate** track on your log.

Note: The **Core Rate** curve has not yet been associated with the **Core Rate** layer. This will be done when the **Add Curve** window has been correctly filled in.

7. **Click** on the Exit **button** to return to the log and the log will be initialized with the new layer, which in turn will activate an **Add Curve** window.

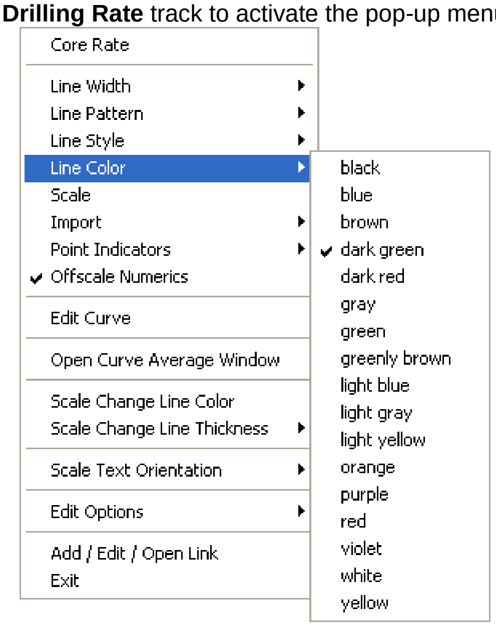
The Add Curve window

1. Select an appropriate unit for the **Curve Units** field from the **Curve Units** field drop box, left and right scales grid type and backup scale type from the appropriate fields.
2. **Click** on OK to add the curve and its scale to the **Core Rate** layer and exit from the **Add Curve** window.

Note: At times, the curve scales are not represented correctly. If this happens, simply **click** on **Refresh Data**, under the **Options** menu selection, and the log will be reset accordingly.

Changing the Color of the Core Rate curve

1. **Click** anywhere within the **Drilling Rate** track to make it the active track (indicated by a green highlight around the track).
2. **Click** on **Core Rate** in the **Layer Selection List** field to make **Core Rate** the active layer within the **Drilling Rate** track.
3. **Right click** anywhere within the **Drilling Rate** track to activate the pop-up menu.



4. **Click** on **Line Color** and then select the appropriate color from the pop-up menu.

Adding values to the Core Rate curve

1. **Double click** on the **Drilling Rate** track to bring up the **Curve Editor** window for the **Core Rate** curve layer.
2. In the **Curve Editor** window, change the **Auto Depth Increment** field value to its desired setting.
3. Enter your values into the **Depth** and **Value** fields.

Note: After the first value has been entered into the **Depth** field, the **Curve Editor** window automatically performs each subsequent increment, according to the value placed in the **Auto Depth Increment** field. Consequently, the only values you need to enter manually, after the first entry, are the **Value** field values.

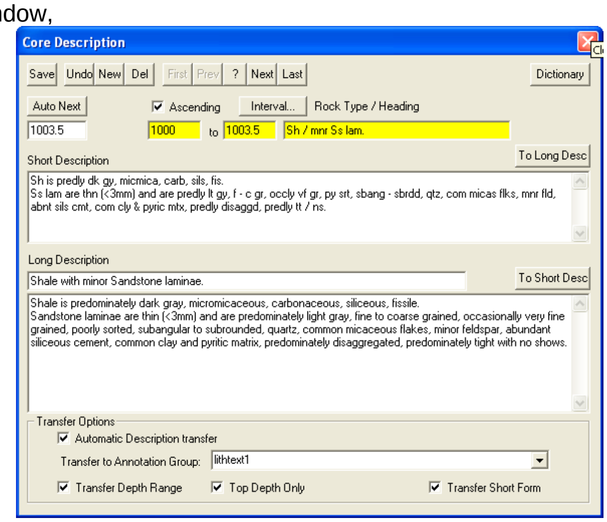
4. **Click** on the Save **button**.
5. Press the **Esc** key on the keyboard to exit from the **Curve Editor** window and you will then be returned to the main log.

Core Description

This report allows you to describe a Core. The long descriptions will be used in the Core Description Report that is printed out in the Well End Report. The short format can be utilized on the log, using the Sample/Core Description Transfer option or the automated transfer in the Core Description Window.

Note: If the descriptions are then transferred to the Striplog and then edited on the striplog the descriptions entered in the Sample Description reports remain unchanged.

1. **Click** on the **Reports** menu selection and **select Core Description** if you do not want to fill in the Core Header information or **select** on **Well Core if you do. Click** on the Core Descriptions **button** after filling in the Core Header portion of the window,



The Dictionary **button** activates the **Geology Dictionary** window that allows you to add, edit and delete abbreviations and long forms from the expansion dictionary.

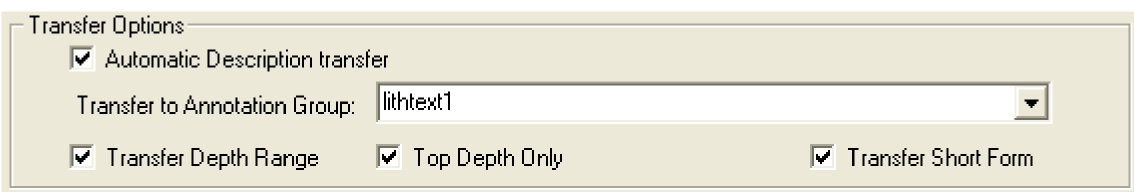
The ☑ Ascending check box when activated will advance the Top Depth with the Base depth value. This will only be implemented when the record is saved and the Start New Record option is chosen. If the ☐ Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

The Interval... **button** displays a list of descriptions that have been entered to date for the current well.

The To Long Desc **button** expands the text you have typed in the **Short Description** field and places them in the **Long Description** field.

The To Short Desc **button** abbreviates the text you have typed in the **Long Description** field and places them in the **Short Description** field.

Automatic Description Transfer Options



The **Automatic Description transfer** check box ☑ when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lithtext1, the second log created for a well will have a lithology description layer identified with a group called lithtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth Range** check box ☑ when activated will transfer the from and to depth interval to the log.
The **Transfer Top Depth Only** check box ☑ when activated will transfer only the from depth interval to the log.
The **Transfer Short Form** check box ☑ when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

Adding a Core Description

1. **Click** on **Core** under the **Reports** menu selection to activate the **Well Core** window.
2. The user must fill in the Mandatory fields in the core window and save this record before you can click on **Core Description Button** in the Well Core window. If any descriptions have been entered for the current well, the last description will be displayed. Otherwise, the intervals are set to zero (**0**) and the cursor is placed in the **Interval** (From) depth field.
3. Type the **Interval** (From) and **Interval** (To) depth values into their respective fields and press the **Tab** key on the keyboard to move to the next field.
4. Type in the **Rock Type** and press the **Tab** key.
5. Type the **Short** (abbreviated) **Description** into the **Short Description** field.

Note that any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.

When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.

6. **Click** on the [Save] **button or press ALT-S**, and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Note: You also have the option of typing out the non-abbreviated form of the **Core Descriptions** into the **Long Description** field and then clicking on the [To Short Desc] **button** to display the abbreviated form of the **Core Descriptions** in the **Short Description** field.

7. Repeat **Steps 3** to **6.**

Note: IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the [Save] **button or press ALT-S** every time you finish entering a new record.

Editing a Core Description

1. Use the Database Navigational Tools [First] [Prev] [?] [Next] [Last] to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the [Interval...] **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to edit.
3. Once the selected interval is displayed in the **Core Description** window, make any changes you feel are necessary. **Click** on the [Save] **button or press ALT-S and** then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Core Description

1. Use the Database Navigational Tools [First] [Prev] [?] [Next] [Last] to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the [Interval...] **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to delete.
3. **Click** on the [Del] **Delete button**.
4. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the [Yes] **button**.

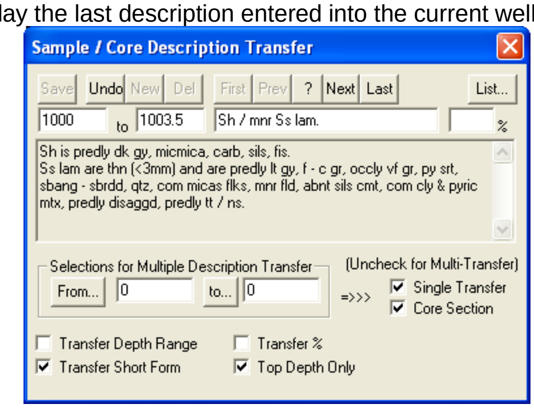
For an alternate method to place the Core Descriptions onto the log, see "*Transferring Core Descriptions*" on the following page.

Transferring Core Descriptions

Core Logs are normally printed on a log scale of **1:120** or less. To select your scale, **click** on the **Log Scales** field drop box, located on the **Toolbar** in the main **Power*Log / Core & Curve** window, and select a **Log Scale** of **1:120** or less, e.g. 1:96 or 1:48.

Transferring a Single Core Description

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.



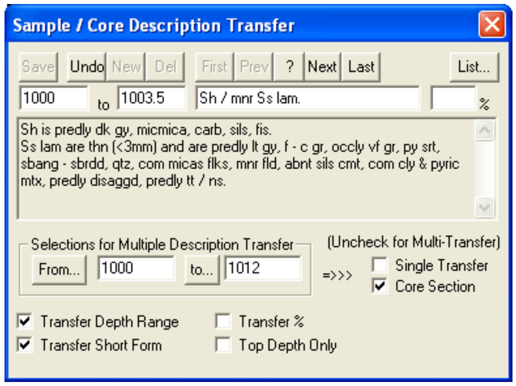
2. **Use** the **database navigational tools** First Prev ? Next Last to navigate through the records.
3. **OR Click** on the ? **button** to enter query mode. The **Depth** and **Rock Type** text fields will become red.

   Type in either a depth value or rock type where you want to start a query from, and **click** on the S? **Start Query** button. This will refresh the window with all the records starting from the depth value or rock type that you have just entered. Then, use the database navigational tools to navigate through the records.
4. **OR, Click** on the List... **button** within the **Sample/Core Description Transfer** window to activate the **Sample/Core Description List** window. Then, **double click** on the desired description within the **Sample/Core Description List** window in order to display it in the **Sample/Core Description Transfer** window
5. When the desired Core Description for transfer is displayed within the **Sample/Core Description Transfer** window, activate the **Core Section** check box.
6. Next, select a spot on the active **Lithology Description** layer, on the **Lithology Description** track, where you want the **Core Description** to be placed.
7. **Click** on a spot and the following system message will be activated, "Transferring Core Descriptions. Do you wish to change screen scale to 1:120 so you can see the core descriptions?"
8. **Click** on the Yes **button** to proceed with the transfer of the **Core Description**.
9. Press the **Esc** key on the keyboard to exit from the **Sample/Core Description Transfer** window.

Note: You may now wish to change the **Log Scale** back to the default of **1:240**. When the scale is changed back to 1:240 the descriptions transferred will be turned off by default. Refer to Annotation builder display scale to see how to manage these annotations.

Transferring Multiple Core Description

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.



2. Then, **click** on the From... **button** to select the starting depth of the first interval that you wish to transfer.
3. **Click** on the to... **button** and select the starting depth of the last interval to be transferred.
4. Deactivate the **Single Transfer** check box .
5. Activate the **Core Section** check box to ensure that the display scale for the **Core Descriptions** is set at **1:120**. This will ensure that all of the **Core Descriptions** will be seen on the log at a **Log Scale** of **1:120**, while avoiding any possibility of overlapping with the **Sample Descriptions** being displayed at the standard **Log Scale** of **1:240**.
6. **Click** on a spot within the active **Lithology Description** layer, where you want the **Core Descriptions** to be placed, and the following system message will be activated, "***Do you really want to transfer sample / core text between _ and _ to the log starting at _?***"
7. If the depths outlined in the system message are correct, then **click** on the Yes **button** and the following system message will be activated, "***Transferring Core Descriptions. Do you wish to change screen scale to 1:120 so you can see the core descriptions?***"
8. **Click** on the Yes **button** to proceed with the multiple **Core Description** transfer with the transfer options selected.

Note: The depth difference between the position of the first description and the actual start depth interval of the first description will remain constant for the entire range of your current transfer. If there are multiple descriptions for one interval they will be placed on the log in descending order of percentage one meter apart. These can be edited later in the **Annotation** window.

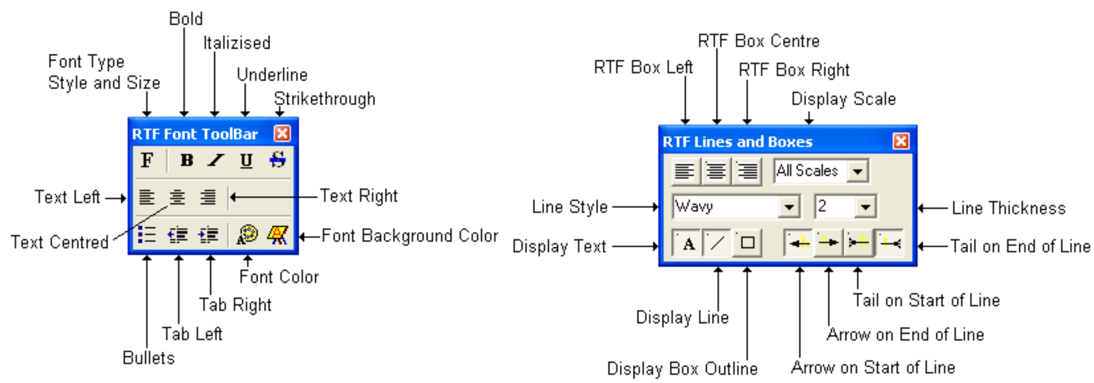
Editing Core Descriptions

Note: Core Sections usually occupy a small interval and as a result their **Core Descriptions** will sometimes overlap. Therefore, edit any overlapping **Core Descriptions** so that they will be legible on the **Core Log** printed out at a scale of **1:120**.

Editing Annotations/Lithology Descriptions…

1. Make the Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

2. **Click** in **annotation field box** to highlight the field and activate the RTF Toolbars.



3. Edit this field as you normally would utilizing the keypad, mouse and toolbars to edit anything inside this annotation field or add a line.

4. **Click outside** of the highlighted text field to close the toolbars.

Resizing Annotations/Lithology Descriptions…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

2. **Click** in **annotation field box** to highlight the field and activate the RTF Toolbars.

3. Place the mouse pointer over one of small boxes (☐) used to define the outline around the **Annotation/Lithology Description** and the mouse pointer will transform into a double arrow(⇳).

4. **Click** and **drag** the mouse pointer to define the new size for the **Annotation**.

5. **Release** the **mouse button**, and the Annotation/Lithology Description will be redrawn within its newly defined area.

6. **Click outside** of the highlighted text field to close the toolbars.

Moving Annotations/Lithology Descriptions…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

2. **Click** on **annotation field box** to highlight the field and activate the RTF Toolbars.

3. **Move** the mouse pointer <u>on</u> the highlight surrounding the selected **Annotation/Lithology Description** and the mouse pointer will transform into the shape of a cross with four ✥ arrows.

4. **Click and drag** the mouse pointer to the **Annotation's/Lithology Description's** new position.

5. **Release** the mouse button, and the **Annotation/Lithology Description** will be redrawn at its new location.

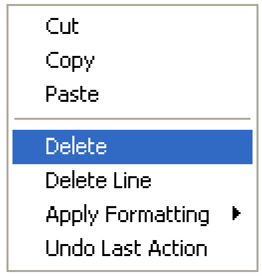
6. **Click outside** of the highlighted text field to close the toolbars.

Deleting Annotations/Lithology Descriptions…

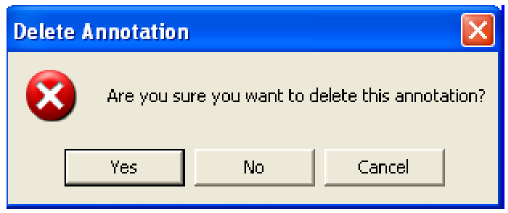
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.

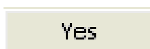
2. **Click** in **annotation field box outline** to highlight the field and activate the RTF Toolbars.

3. **Right Click** anywhere **within the Annotation field** that is highlighted to activate the pop-up menu.



4. **Click** on **Delete selection** and you will receive the following system message.



5. **Click** on  **button** and the selected Annotation/Lithology Description will be deleted accordingly.
6. **Click outside** of the highlighted text field to close the toolbars.

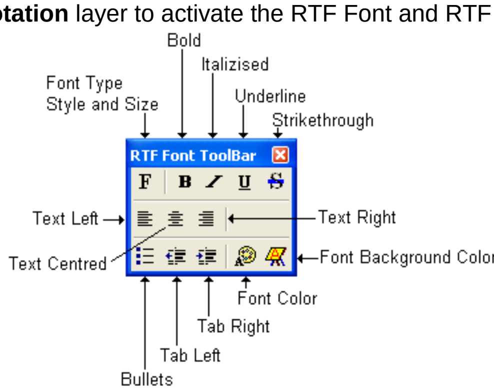
Drawing Interpreted Lithology on a Core Log

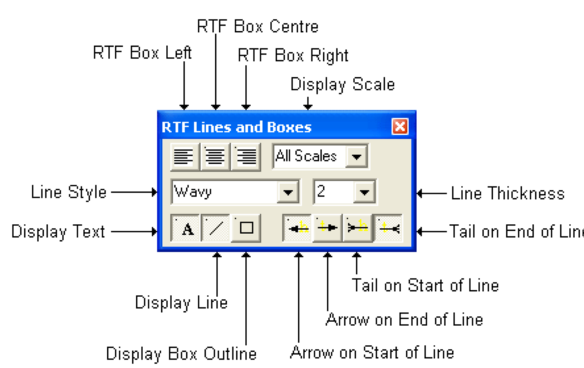
<u>**Note**</u>**:** You may wish to change the **Screen Accuracy**, e.g. **1m** to. **0.2m**, to facilitate the accurate drawing of finely <u>detailed</u> lithology on the **Core Log**. Moreover, you may also wish to change the **Log Scale** to a smaller scale, e.g. **1:120** or **1:48**.

For more information on drawing **Interpreted Lithology**, please refer to the "***Interpreted Lithology Layer - Rock Type Builder***" section in **Chapter Eight** of the **User Manual** or press **F1** to access the **On-line Help System**, while the **Rock Type Builder** window is active.

Adding Annotations to an Annotation layer

1. **Click** on a track containing an **Annotation** layer to make the track active (highlighted in <u>green</u>).
2. Select the **Annotation** layer, as the active layer, from the **Layer Selection List** field on the selection bar.
3. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
4. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes toolbars shown below.

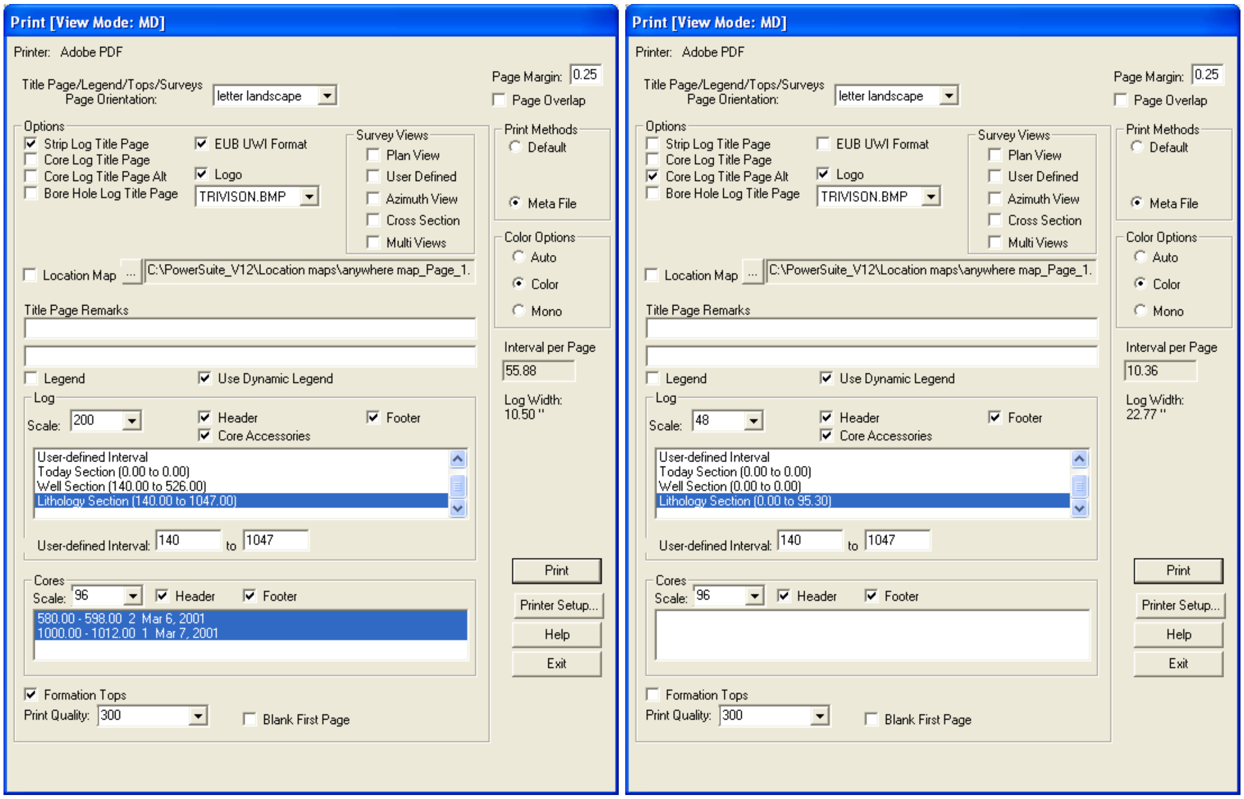




5. **Click** once more **in the drawn area** and you will get a flashing cursor.
6. **Type in your annotation.**
7. Utilize the options in the **RTF Font** and **RFT line and box toolbars** to get the desired effect on your annotation.

8. **Click anywhere outside** the **annotation box** to close the toolbars. **Repeat** steps **2-6** for more annotations.

Printing out a Core Log



1. If this is a core log only it should be like the print window on the right. If the core log is part of the striplog it should be like the print window on the left.

N.B. The illustration on the left of the Print Log window shows that no information has been entered into the Core Header Report and has been drawn as a striplog only. The illustration on the right shows 2 Cores have been entered into the Core Header Report and will print a normal striplog Title Page, a dynamic legend, a striplog with the cored intervals included at a scale of 1:240 followed by separate Core logs on the tail of the striplog at a depth scale of 1:120. The difference in Title Page types is indicated the by the check box beside the Core Log option.

2. If you are printing out a striplog with Cores on the tail as illustrated by the print log window on the right you must decide whether or not you wish to display the **Core Accessories** on the printout of your main log by either activating or not activating the **Core Accessories** check box  in the **Print Log** window. Sometimes the user gets carried away with symbols on the larger scale and looks very busy when printed out at a smaller scale.

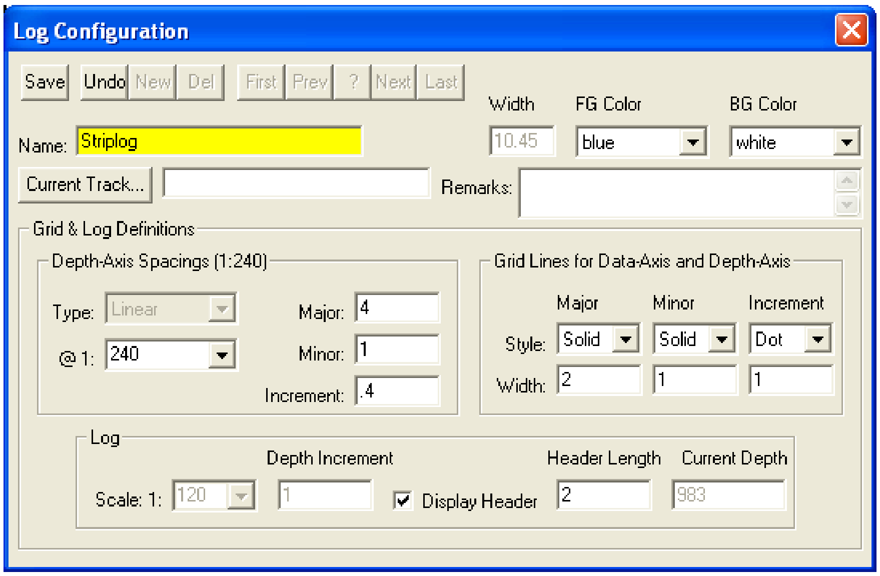
3. Decide whether or not you wish to modify the properties of the **Core Log** by selecting appropriate **Depth Axis Spacing** settings from within the **Log Configuration** window as shown on the next page. If you do change the grid pattern it is not recommended to print the main striplog out as the depth axis grid gets all messed up with the smaller printing scales. This suggestion is only for printing out the core logs by themselves

Note: If you want your **Core Log** to have a depth grid pattern of **1/5ths** or **1/4trs** of a meter, you must adopt the **Depth Axis Spacing** settings listed under **Core Log Scales** below within the **Log Configuration** window.

Core Log Scales	Major	Minor	Increment
1:120 or less	4	1	0.4 (For Grid Patterns displayed in 1/5ths)
1:120 or less	4	1	0.5 (For Grid Patterns displayed in 1/4ths)

Default Log Scale	Major	Minor	Increment
1:240	10	5	1

To activate the Log configuration window shown below you must **Click** on the **Edit** menu selection and then **click** on the **Log Configuration** selection.



Note: Implementing one of the **Core Log Scale** settings described above is only applicable to the printout of a **Core Log**. Once you have finished printing out your **Core Log**, you must change the **Depth Axis Spacing** values back to the **Default Log Scale** settings outlined above.

Chapter Twelve - System Help

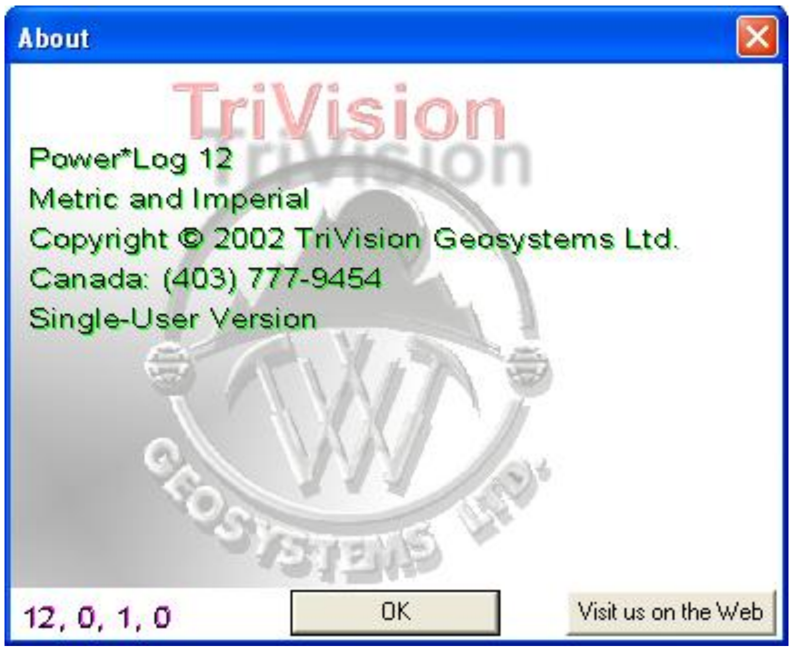
Index:

Use this command to display the opening **Help** screen. From the opening screen, you can jump to step-by-step instructions for using **Power*Log / Core & Curve** and various types of reference information.
Once you open **Help**, you can **click** on the **Contents** tab whenever you want to return to the opening screen.

Using Help:

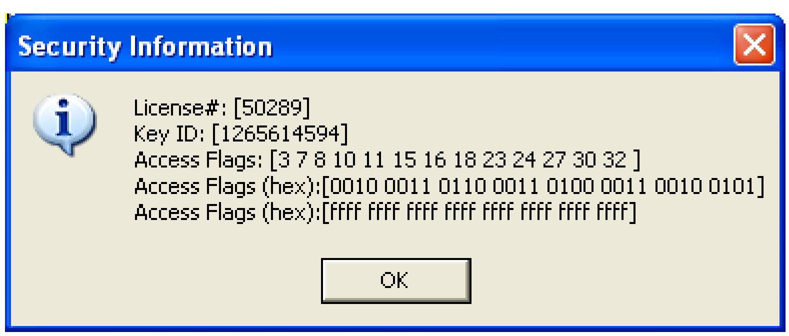
Use this command to display the opening **Help** screen. From the opening screen, you can jump to step-by-step instructions for using **Power*Log / Core & Curve** and various types of reference information.
Once you open **Help**, you can **click** on the **Contents** tab whenever you want to return to the opening screen.

About Power*Log / Core & Curve:



Show Registration:

This menu selection tells the user which system flags they have. The system flags enable or disable some of the functionality's of the program. To date there are 32 system flags available.



Current Access Flags:

1. Vacant
2. Vacant
3. Version 12

4+5+6 Version 11
4+5 Version 10
4+6 Version 9

4. Version 8
5. Version 7
6. Version 6
7. Power*Log Flag
8. Power*Curve Flag
9. Power*Log Correlational / Lithology Flag
10. LAS Import
11. LAS Export
12. Power*Curve Correlational Flag
13. Sybase Network Flag
14. Oracle Network Flag
15. Power*Suite Metric Flag
16. Power*Suite Imperial Flag
17. Power*Suite Automated Import Flag
18. ASCII to LAS Builder Flag
19. Vacant
20. Vacant
21. Version 11 Flag Basic Version
22. Power*Suite Automated Database Backup Flag
23. Power*Log True Vertical Depth Flag
24. Power*Curve Vertical Section Flag
25. Vacant
26. Printing License
27. Vacant
28. Power*Log Network Database Flag
29. Power*Curve Network Database Flag
30. Power*Suite Database Manager Flag
31. Vacant
32. Power*Core Flag

Check for Updates:

This menu selection allows the user to check if there are any updates available on our website.

Useful Topics:

This menu selection allows the user to look for useful topics such as How to Sidetrack a Well.

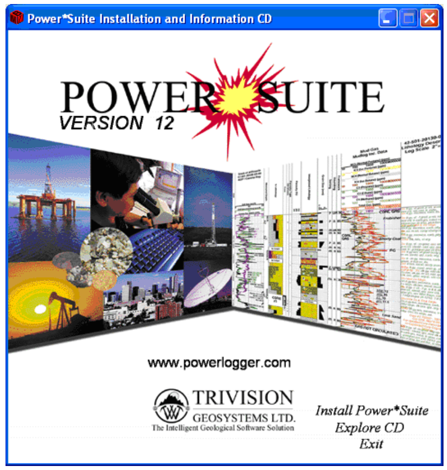
Context Sensitive Help button:

Use the  **Context Sensitive Help button** to obtain help on some portion of **Power*Log / Core & Curve**. When you select this button, the mouse pointer will change to an arrow and question mark. With this new pointer, **hover over a selection and then depress the F1 key on your keypad** in the **Power*Log / Core & Curve** window, such as another **Toolbar** button and the **Help** Information will appear.

Chapter Thirteen - Power*Suite Installation Procedures

Power*Suite Installation Procedure

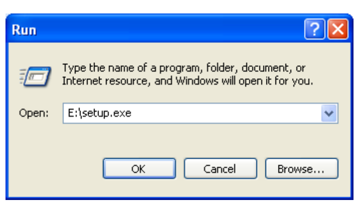
1.) **Insert Power*Suite CD V12** into the CD Rom Drive of your Computer.



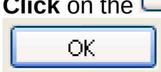
2.) If the Autorun works the CD ROM should be activated automatically and you will see the Window above. **Select Install Power*Suite. If the CD does not Autorun move ahead to Step 4.**

3.) Select the **Main Setup** selection in the Install Power*Suite section. Skip **to Step 6.**

4.) **Click** on the  **button** on your task bar and then **click** on the **Run selection**. This will activate the Run window.



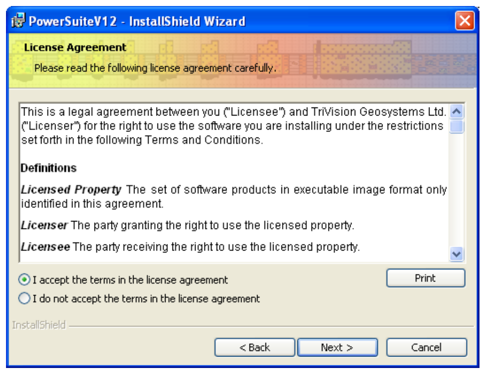
5.) **Click** on the 

button and select the **setup.exe** from the CD ROM drive. **Click** on the 

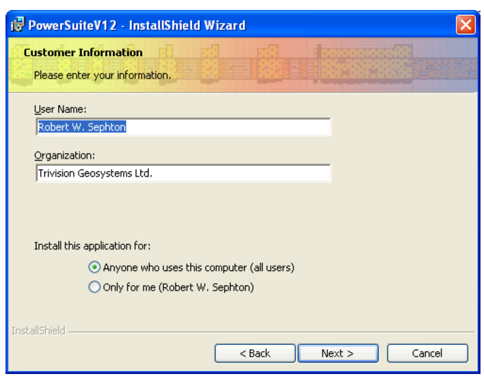
button in the Run window.

6.) This will activate the Install Shield setup followed by the Windows Install window and the **Power*Suite Welcome Message** Window. **Click** on the Next > **button**.

7.) This will activate the License Agreement window. **Click** on the beside **I accept the terms in the license agreement.** Then **click** on the Next > **button.**

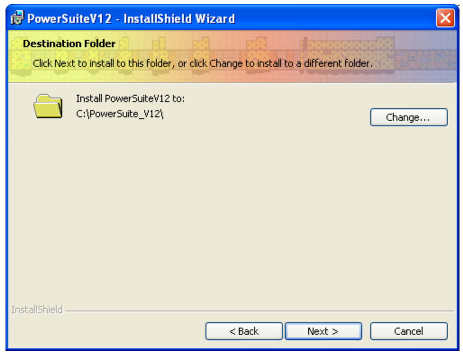


8.) This will activate the Customer Information window with User Name and Organization fields. In the Install this application for portion of the window **Click** on the beside **Anyone who uses this computer**. Then **click** on the Next > **button.**



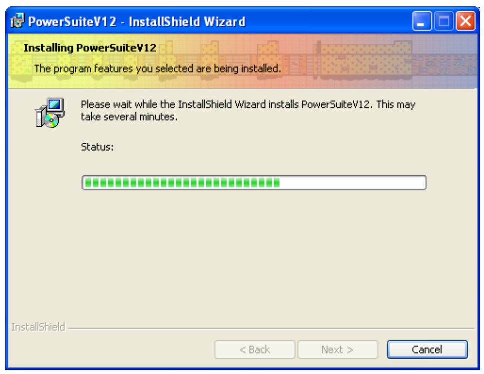
9.) This will activate the **Destination Folder** window with **C:\POWERSUITE_V12** as the default location. **Click** on the Next > **button**.

The User has the ability to change the destination folder if required by clicking on the Change... button. This is not recommended.

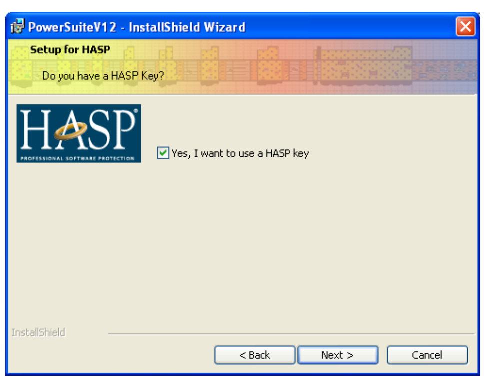


10.) This will activate the **Database Folder Location** window with **C:\POWERSUITE_V12\Database** as the default location. **Click** on the Next > **button**.

The user has the ability to change the database destination folder by clicking on the Change... **button. This is recommended if you are working with a LAN system where the Network directory is being backed up on a regular basis. If not the default destination folder is recommended.**

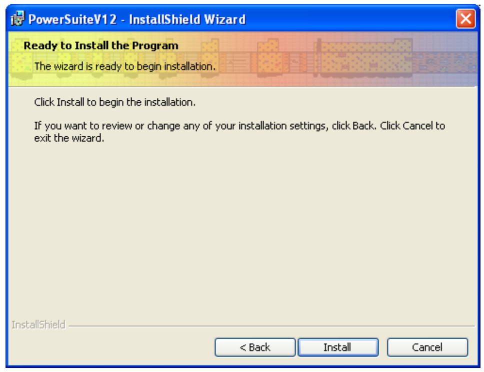


11.) This will activate the Setup for Hasp Window. If you have a Hasp USB or parallel port key and it has been activated for Power*Suite Version 12 **Click** on the Next > **button**. If you do not have a hasp key and you are evaluating then **Uncheck** the Yes, I want to use a HASP key and then **Click** on the Next > **button**

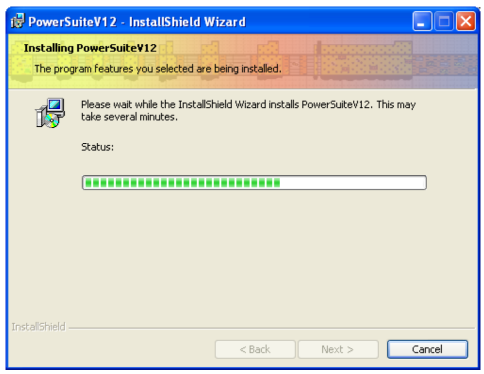


12.) This will activate the Ready to Install window. **Click** on the 

button.

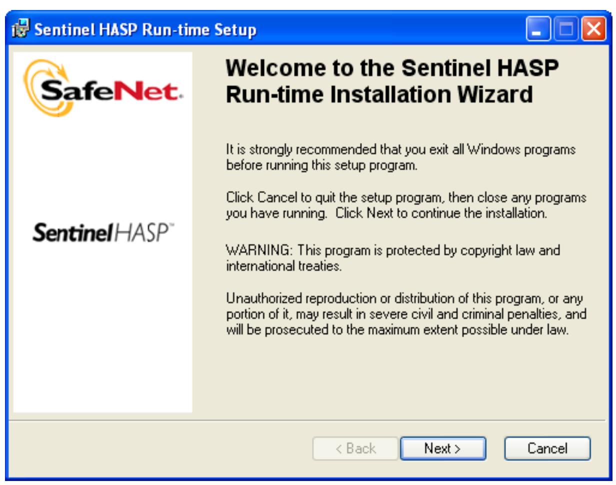


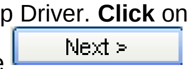
13.) Next the user will see the Installing **Power*Suite window** copying files, writing to the registry, creating desktop icons, creating start menu folder, ODBC components etc. An example of this window can be seen below.



14.) This will activate the Sentinel HASP Run time Setup Welcome window. **Click** on the 

button.

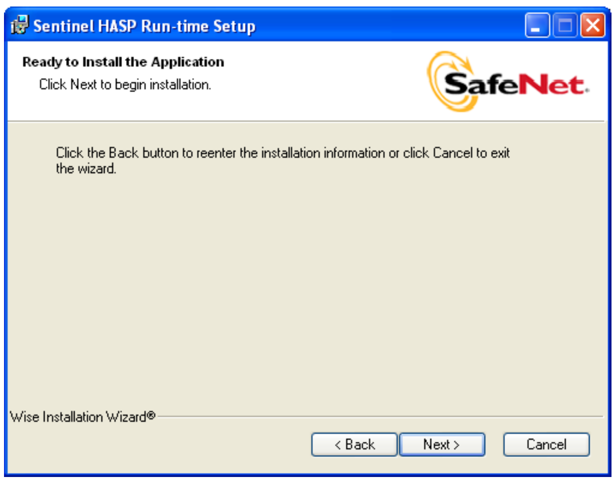


15.) This will activate the End User License Agreement for the Hasp Driver. **Click** on the radio button  beside **I accept the license agreement** and then **Click** on the 

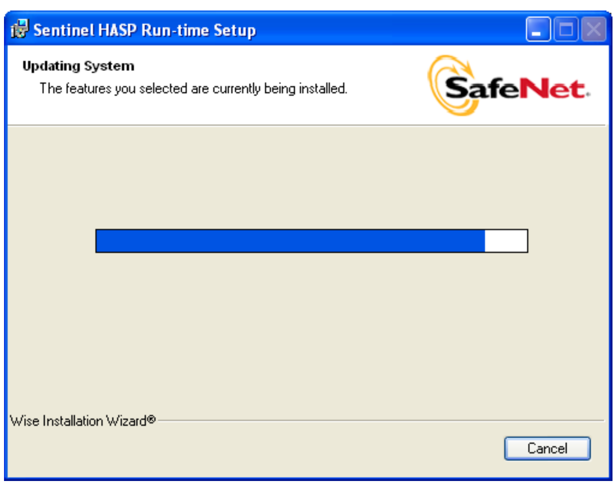
button

16.) **This will activate the Ready to Install window. Click** on the 

button.

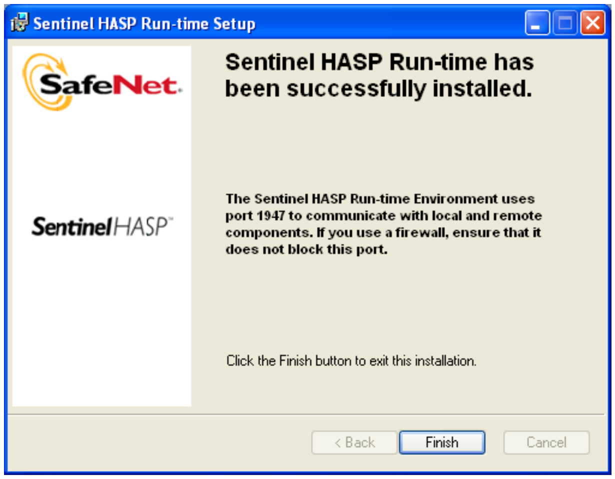


17.) This will initiate the install windows for the HASP device drivers.



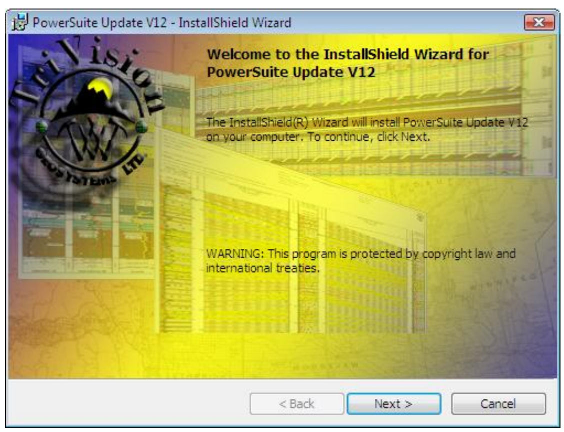
18.) When the installation is complete the program will activate the Finished window. **Click** on the 

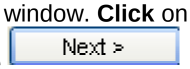
button



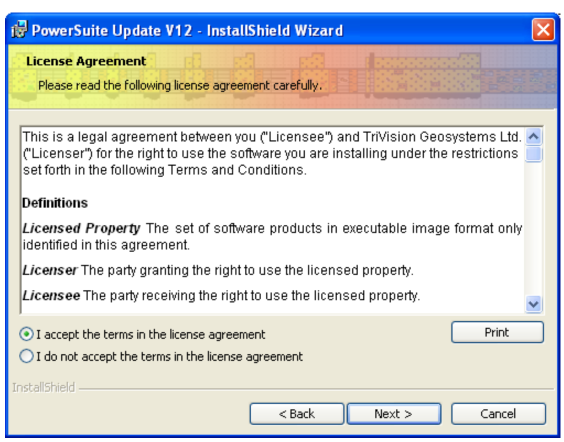
19.) This will activate the **Power*Suite Update Welcome Message** Window. **Click** on the 

button.



20.) This will activate the **License Agreement** window. **Click** on the radio button  beside **I accept the license agreement** and then **Click** on the 

button.



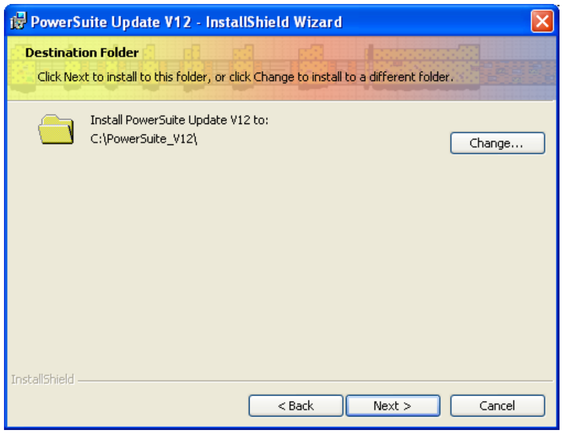
21.) This will activate the **Destination Folder** window with **C:\POWERSUITE_V12** as the default location.

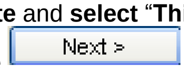
Click on the 

button.

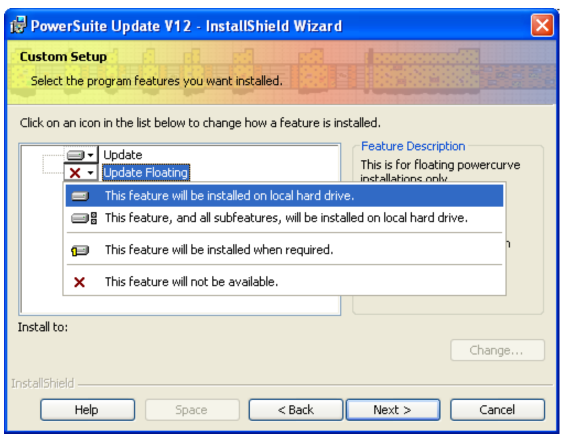
The User has the ability to change the destination folder if required by clicking on the 

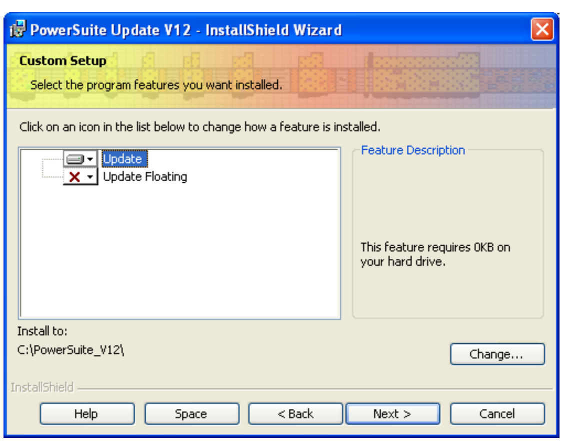
button**. This all depends on where the original Power*Suite was installed.**

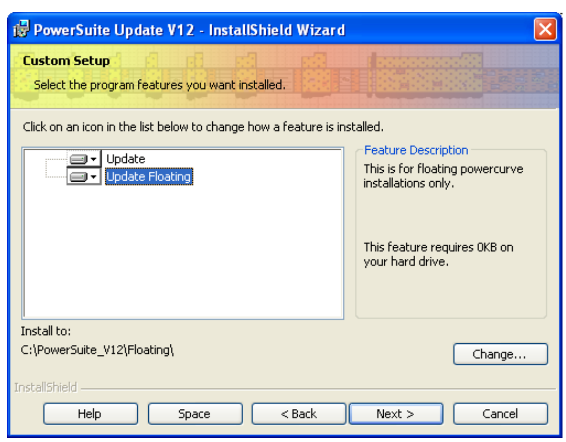


22.) If you have **previously installed the floating license you** will want to **Click** on the **down arrow** beside the **Floating Update** and **select** "**This feature will be installed on the local hard drive"** as shown below. **Click** on the 

button

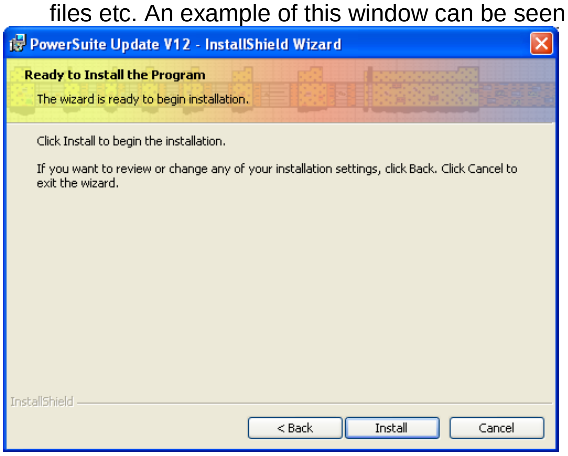


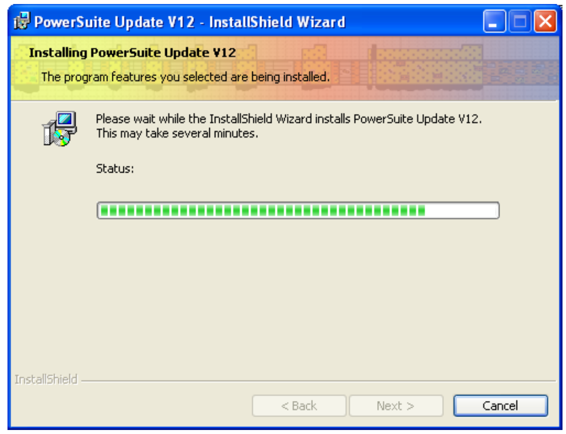




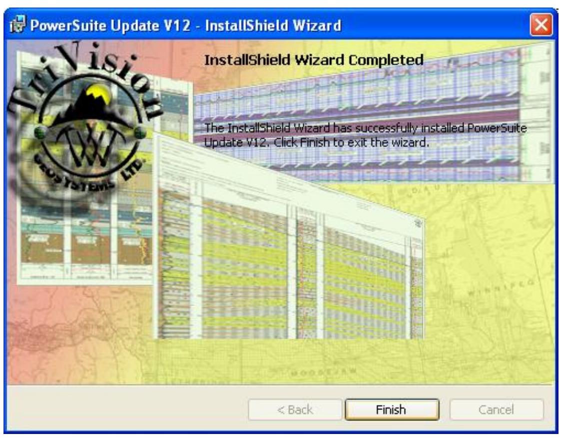
Before After

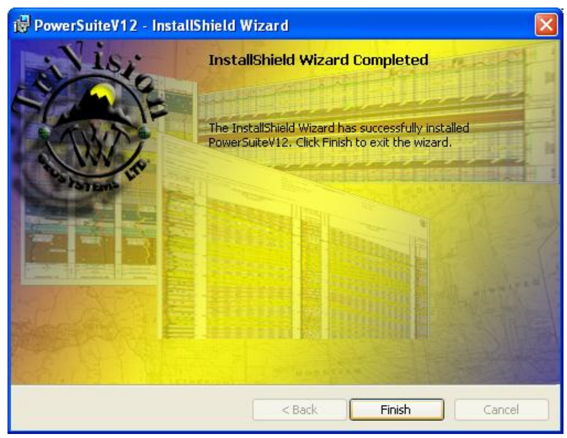
23.) This will activate the **Ready to Install the Program** window. **Click** on the Install **button.** Next the user will see the **Installing Power*Suite Update window** copying files, removing backup files etc. An example of this window can be seen below





24.) Once the Update Installation is complete the **Install Wizard Completed** window shown below will be activated. **Click** on the Finish **buttons twice** for the Update and the Main install..



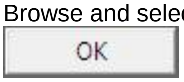


You will now have successfully installed the Power*Suite Update.

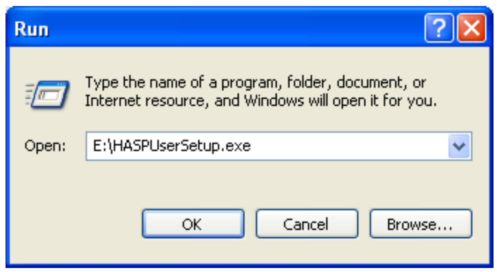
If you want to run a **trial version** of Power*Suite, please refer to the **Trial License Activation section** on page 495. If your trial license runs out and you want further time to evaluate refer to page 494.

Hasp Device Driver Installation Procedures

We have adapted our authorization from Version 3.0 onward with a Hasp Hardware Key. Once a Power*Suite program is loaded on a machine the user has simply to attach a Hasp Hardware key to the Parallel Port on their computer. The program is initially installed and protected by a software program. We have utilized a Software Authorization Program called Crypkey.Hasp Device Driver Installation

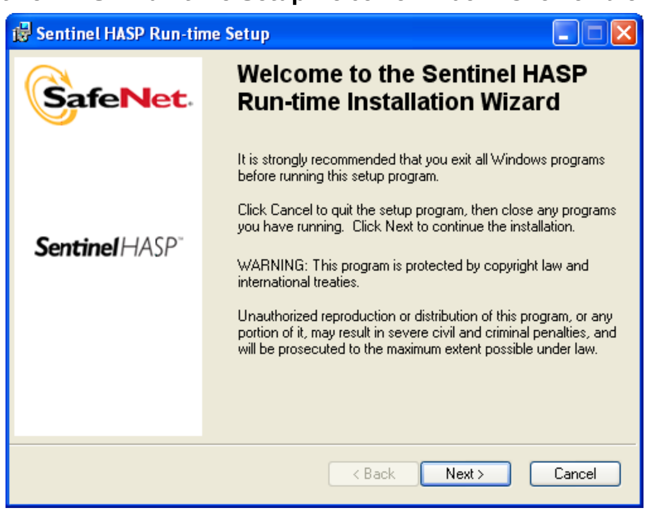
1. If the AutoRun is still running **Select Install Hardware Key Driver** and then skip to step 4.
2. **Click** on the  **button** on your task bar and then **click** on the **Run selection**. This will activate the Run window.
3. Browse and select the **HASPUserSetup.exe** from the root drive of the the CD ROM drive. Then **click** on the 

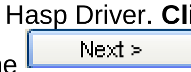
button in the Run window.



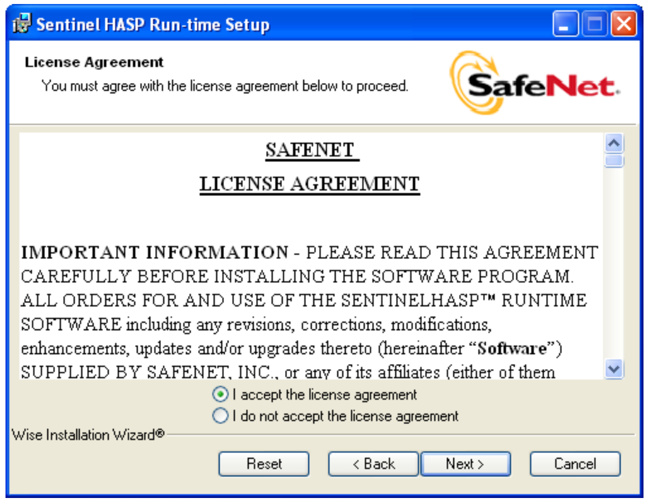
4. This will initiate the **Sentinel HASP Run time Setup** welcome window. **Click** on the 

button.

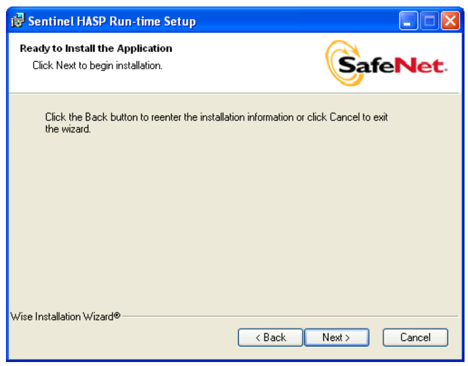


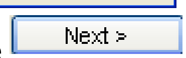
5. This will activate the End User License Agreement for the Hasp Driver. **Click** on the radio button  beside **I accept the license agreement.** Then **click** on the 

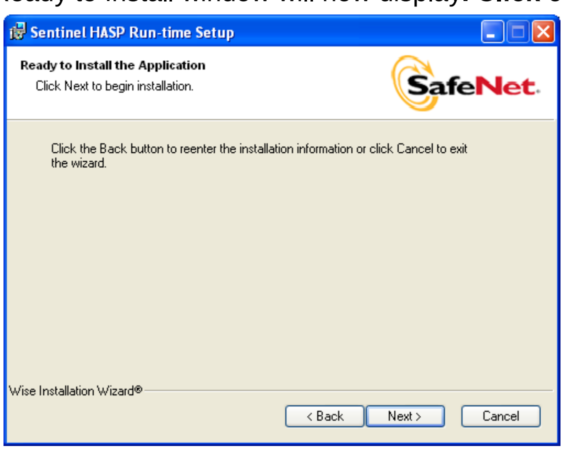
button.

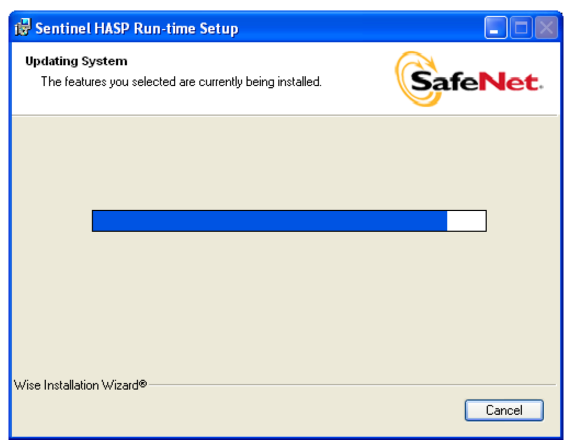


6.) .This will activate the ready to install. Then **click** on the  **button**

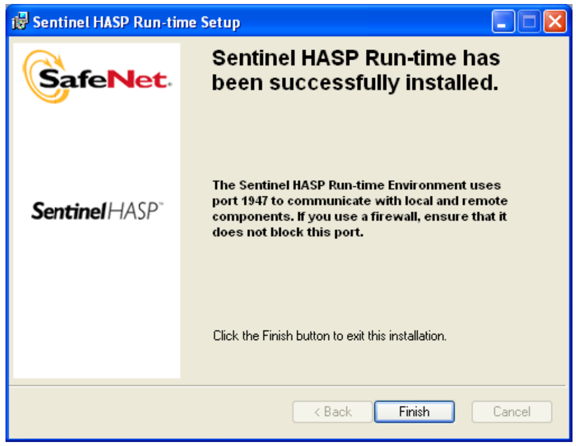


7.) Ready to Install window will now display**. Click** on the  **button**





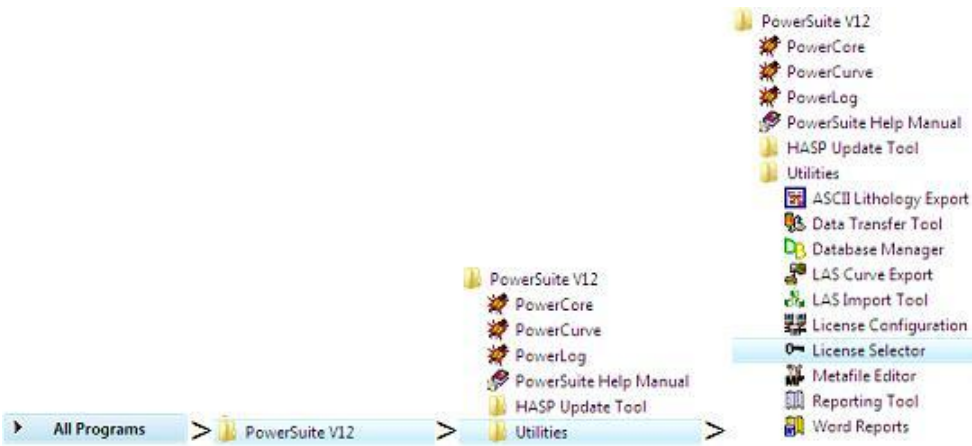
8.) This will initiate the install windows for the HASP device drivers

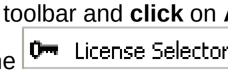


9.) After the installation has been completed you will view the **Hasp Device Drivers Installation Finished** window. **Click** on the 

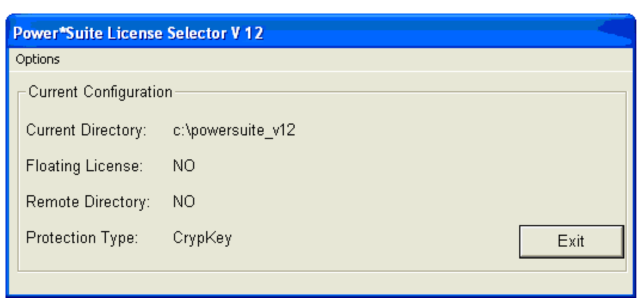
button.

Hasp Key License Activation



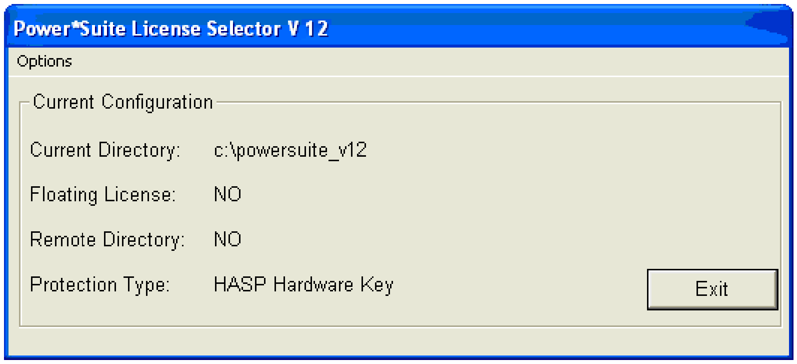
1.) To activate the Power*Suite License Selector **click** on the **button** on the toolbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the 

selection as shown above. This will activate the License Selector window.



2.) **Click** on the **Options** selection to view the pull down menu.

3.) **Select HASP**. The Protection type should read HASP Hardware Key as viewed in the Power*Suite License Selector window shown below.

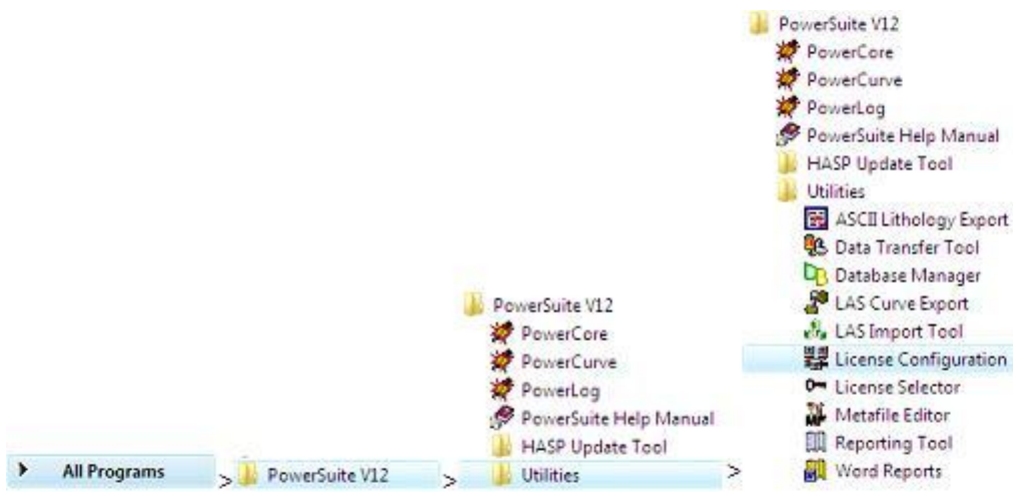


4.) **Click** on the Exit **button**

You are now ready to run either Power*Log, Power*Curve or Power*Core depending on your Hasp Key and its authorization.

Crypkey Power*Suite License Authorization

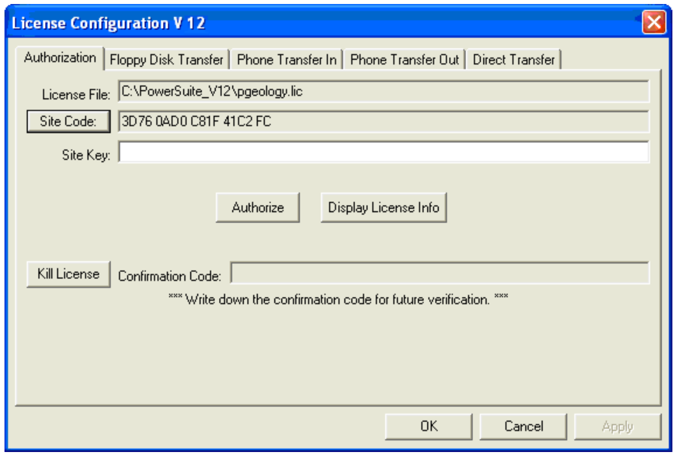
The user may need further evaluation time or they may need temporary license activation because of a malfunction HASP hardware key. To do this, proceed with the following steps.



1.) **Click** on the **button** on the toolbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the License Configuration selection. This will activate the Select License file window.

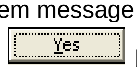
2.) **Click** on the **pgeology.lic** file name in the PowerSuite_V12 folder and then **click** on the Open **button** in the **Select License File** window to proceed.

3.) Acknowledge both the subsequent error message and the contact message by **clicking** on the OK **buttons**. This will now activate the **License Configuration V12** window which will default to the Authorization Tab.



4.) **Click** on the 

button within the window.

5.) This will activate a System message stating *"Site Code generation may take a few minutes. Do you wish to continue?"* **Click** on the 

button.

6.) The *Site Code* will be generated and can then be displayed in the *Site Code* field. This number can be written down, copied and pasted and sent to Trivision via phone at (403) 777-9454, or email at support@powerlogger.com.

7.) Trivision will generate a *Site Key*. This number will have coded within it the number of days the program will be activated for and which modules you wish to purchase or evaluate. Type the site key number within the *Site Key* Field.

8.) **Click** on the 

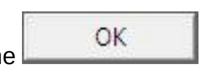
button. If successful you will get a message indicating so.

Trial License Activation

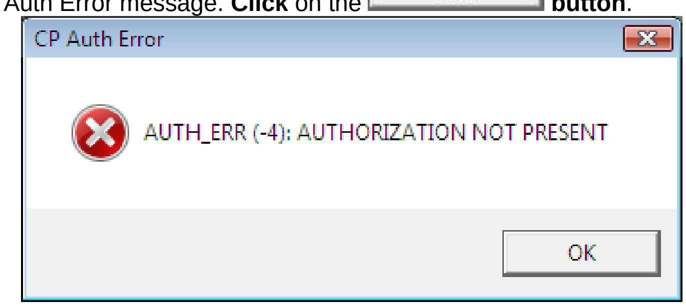
1.) **Double click** on the **Power*Log / Curve or Core** Desktop Icons 

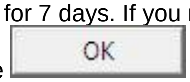
or click on the  **button** on the taskbar and Click on **PowerSuite_V12** and then select the **Power*Log / Curve or Core** 

Selections.

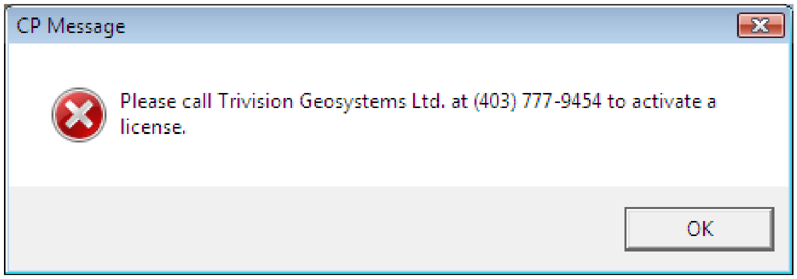
2.) This will activate a CP Auth Error message. **Click** on the 

button.

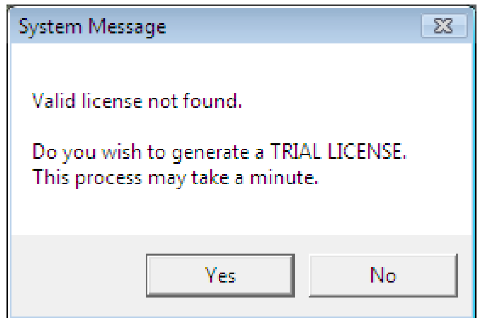


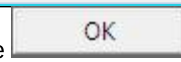
3.) This will activate a CP Message shown below. Note the phone number for later use. The trial license activated will be for 7 days. If you need further time to evaluate, you will have to call the phone number for more time. **Click** on the 

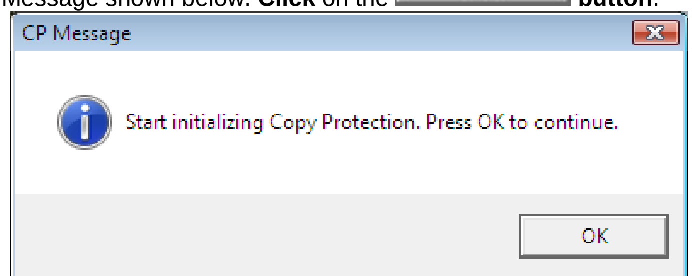
button.

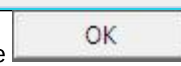


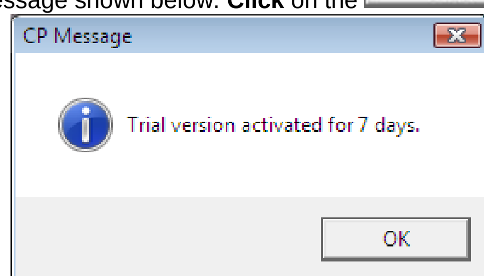
4.) This will activate a System Message indicating there was no valid license and do you want to generate a trial license. **Click** on the  **button**.

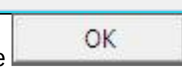


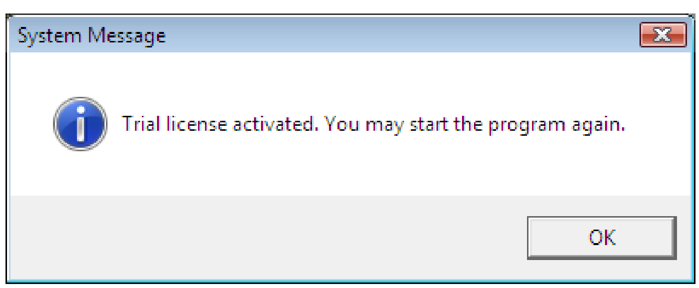
5.) This will activate a CP Message shown below. **Click** on the  **button**.



6.) This will activate another CP Message shown below. **Click** on the  **button**



7.) This will activate a final System Message. **Click** on the  **button**. Repeat Step 1 to activate the program.

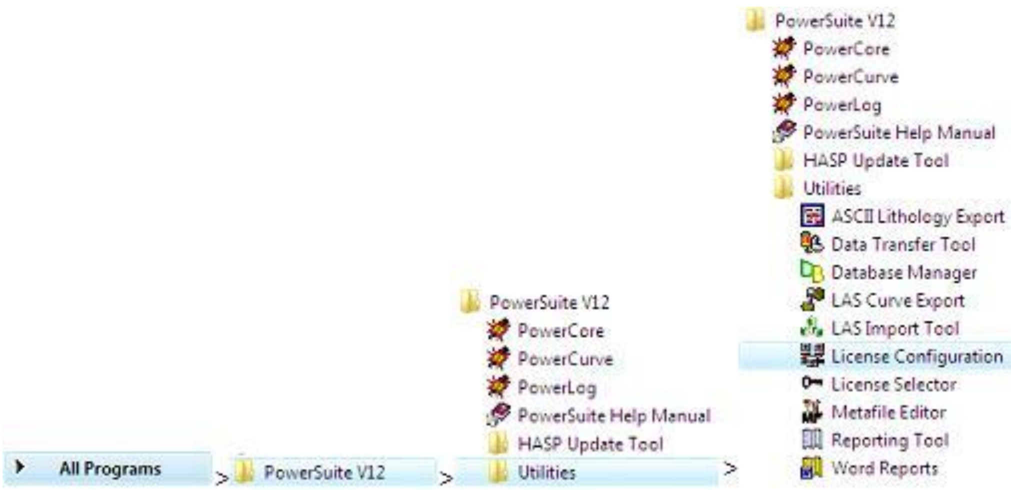


Chapter Fourteen - Authorization

PowerSuite License Configuration Utility: Software Authorization

We have adapted our authorization from Version 3.0 onward with a Permanent Hasp Hardware Key. The program is initially installed and protected by a software program. We have utilized a Software Authorization Program called Crypkey.

How to initially authorize a program once it has been installed

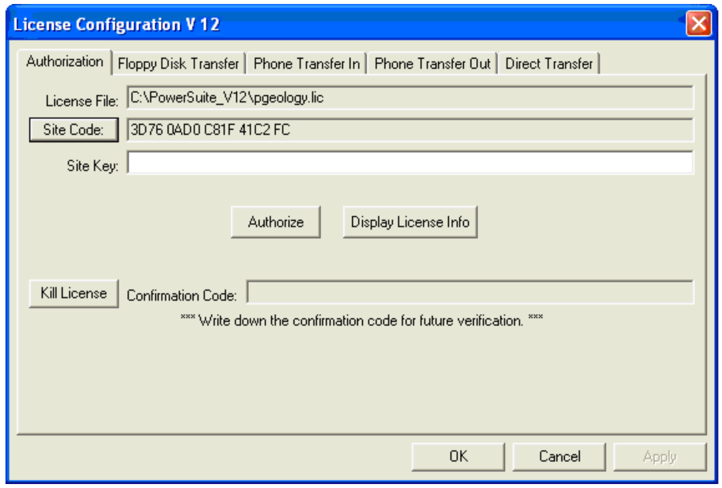


The user may need further evaluation time or they may need temporary license activation because of a malfunction HASP hardware key. To do this, proceed with the following steps.

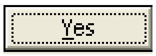
1.) **Click** on the  **button** on the toolbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the License Configuration selection. This will activate the Select License file window.

2.) **Click** on the **pgeology.lic** file name in the PowerSuite_V12 folder and then **click** on the Open **button** in the **Select License File** window to proceed.

3.) Acknowledge both the subsequent error message and the contact message by **clicking** on the OK **buttons**. This will now activate the **License Configuration V12** window which will default to the Authorization Tab.



4.) **Click** on the  **button** within the window.

5.) This will activate a System message stating *"Site Code generation may take a few minutes. Do you wish to continue?"* **Click** on the  **button**.

6.) The *Site Code* will be generated and can then be displayed in the *Site Code* field. This number can be written down, copied and pasted and sent to Trivision via phone at (403) 777-9454, or email at support@powerlogger.com.

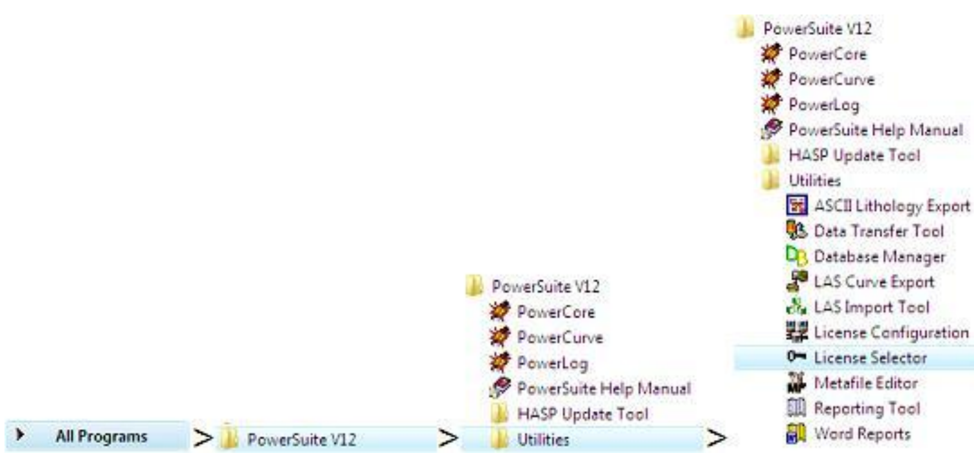
Trivision will generate a *Site Key*. This number will have coded within it the number of days the program will be activated for and which modules you wish to purchase or evaluate. Type the site key number within the *Site Key* Field.

7.) **Click** on the  **button**. If successful you will get a message indicating so.

Your Power*Geology program is now temporarily activated and you can proceed with using the modules activated by this authorization. This will only be a temporary way to protect the program. Once the program has been paid for we will send you a Hardware Key in the Mail or Courier depending on your requirements. This will also act as a stopgap measure if the Hardware Key malfunctions or is lost.

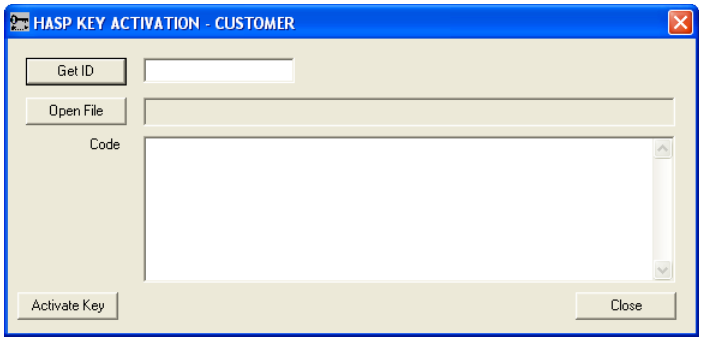
PowerSuite Hasp Update Tool Utility: Hardware Authorization (HASP Key)

The following are the instructions on how to update your HASP key, either a hardware key or USB key.



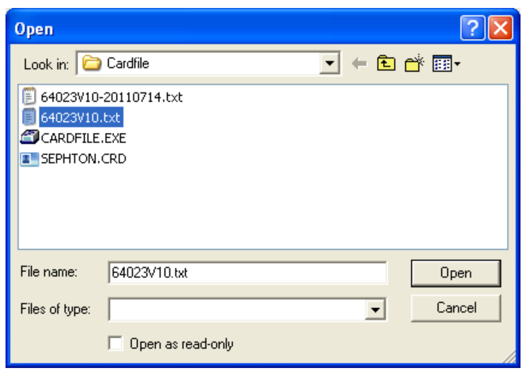
1.) **Click** on the  **button** on the toolbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then **Hasp Update Tool**, Then, and **click** on the 

selection. This will activate the Hasp Key Activation window.



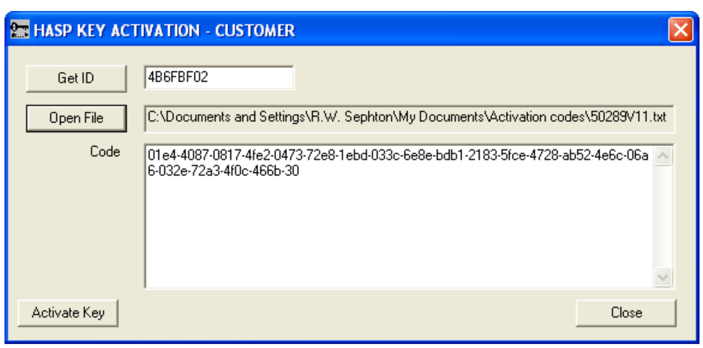
2.) **Click** on the 

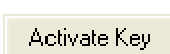
button. This will activate the open file window and locate the codes that were sent to you via email or other means. If you do not have email then you will have to fill in this Code field by hand.



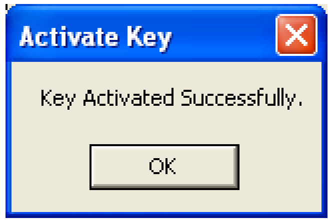
3.) **Click** on the 

button and the codes will then be viewed in the activation window as shown below.



4.) **Click** on the 

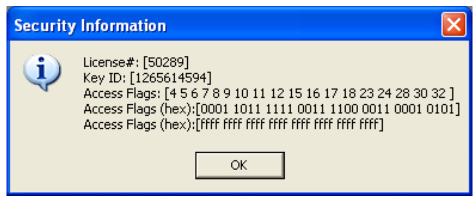
button. If done successful you will receive a system message as shown below. Or if unsuccessful you will receive a message such as tampering as shown below.



5.) **Click** on the 

button to close the window.

6.) To check your key for activation you must **activate the Power*Suite application** and then **Click** on the **Help menu selection** and then **select show registration**. This window will show you the access flags the Hasp Key now contains.



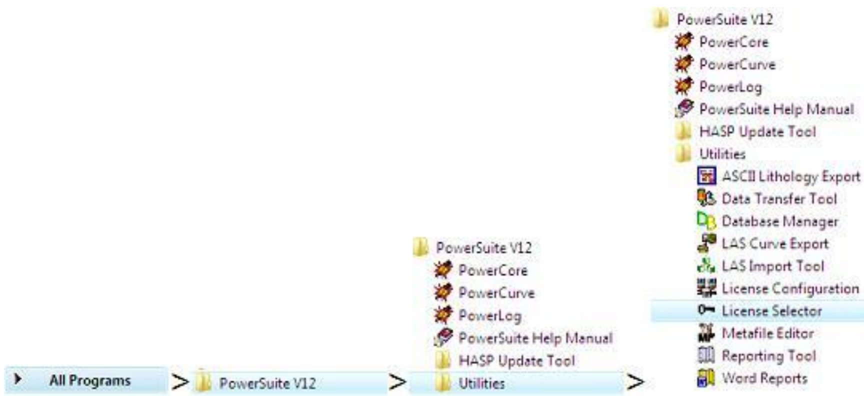
Chapter Fifteen – License Selector

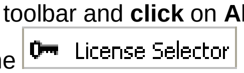
The License Selector program can be accessed through the Power*Suite_V11 \ Utilities and facilitates the selection between the two different licensing methods available for the Power*Suite applications. The two types of authorizations that can be implemented to run our applications are:

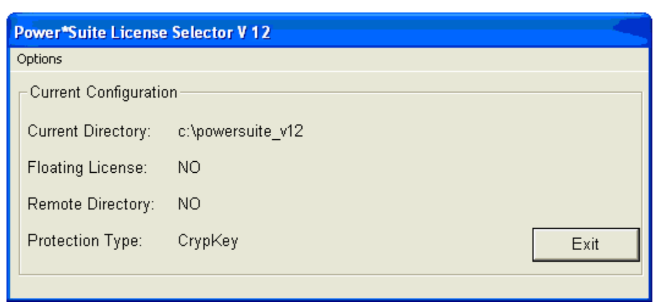
- **Hasp Key** (hardware license) that sits on either the **parallel** or **USB** port of your computer. This is also known as a dongle or hardware key.
- **Crypkey** (software license) is also available that can either reside locally on your computers hard drive or can reside on a network drive.

Hasp (Hardware Key) License Activation

To activate a Hasp (hardware) key the user must first place the Hasp (parallel port) key on the parallel port before the printer cable. If you have a USB Hasp key this must be placed on the USB port. If you have not installed the Hasp key driver on your computer you must insert the Power*Suite CD-ROM and run the executable (**hdd32.exe**) to enable the program to see the Hasp key.

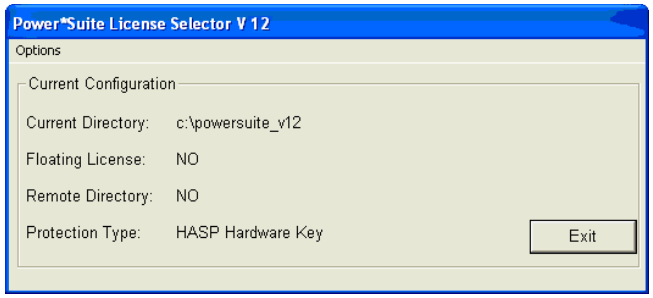


1.) To activate the Power*Suite License Selector **click** on the  **button** on the toolbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the  selection as shown above. This will activate the License Selector window.



2.) **Click** on the **Options** selection to view the pull down menu.

3.) **Select HASP**. The Protection type should read HASP Hardware Key as viewed in the Power*Suite License Selector window shown below.



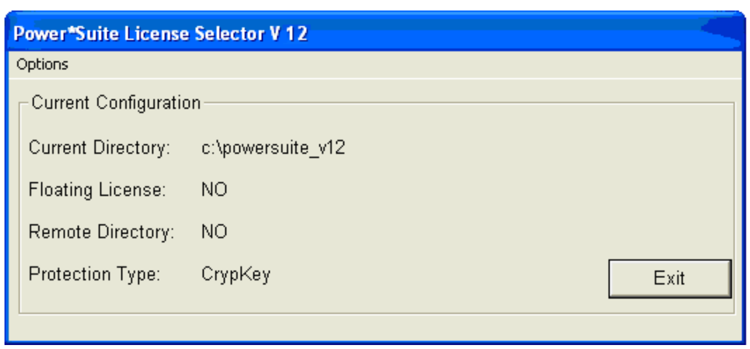
4.) **Click** on the Exit **button**

You are now ready to run either Power*Log, Power*Curve or Power*Core depending on your Hasp Key and its authorization.

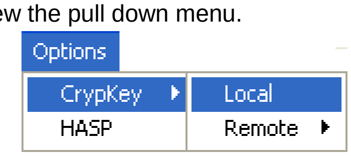
Crypkey (Software) License Activation [Local]

The Crypkey Authorization (Local) is the default License Activation when the program is first installed. The program authorization must be done by TriVision Geosystems Ltd.. To activate a trial or permanent Local Crypkey license please call our office @ (403) 777-9454. The user should refer to the License Configuration section in the manual to generate a site code.

1. To activate the Power*Suite License Selector **click** on the **button** on the taskbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the License Selector selection. This will activate the License Selector window.



2. **Click** on the **Options** selection to view the pull down menu.

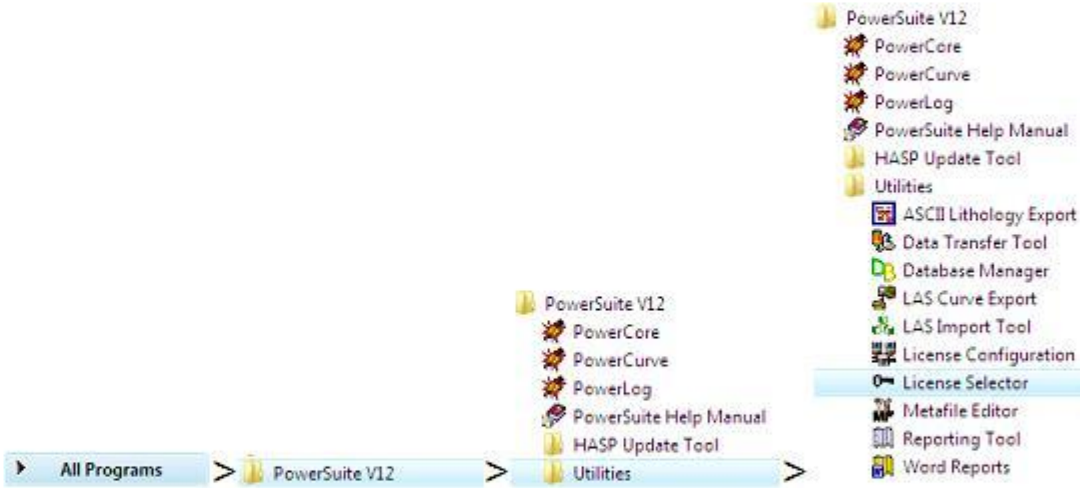


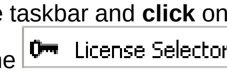
3. Select **Crypkey** to activate a pop-out menu.
4. Select **Local** from the pop-out menu. The Protection type should read **Crypkey** as viewed in the Power*Suite License Selector window shown above.
5. **Click** on the Exit **button**.

You are now ready to run Power*Log, Power*Curve or Power*Core depending on your Crypkey local license and its authorization permissions.

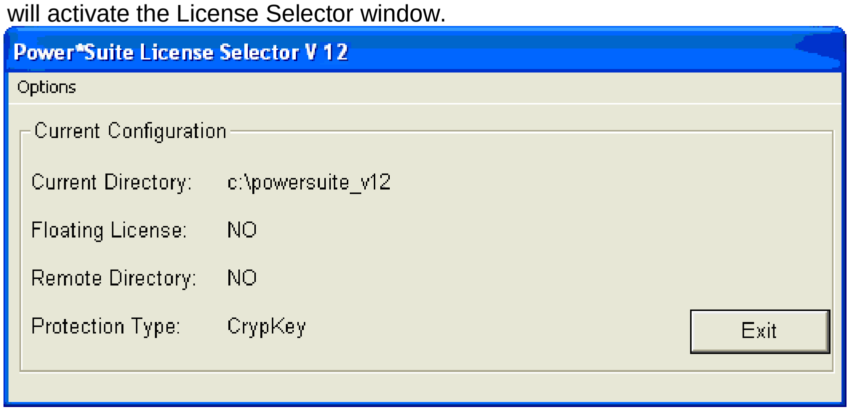
Crypkey (Software) License Activation [Remote]

The Crypkey Authorization (Remote) licensing has to be done by Trivision Geosystems Ltd. on a Network Server. To activate a trial or permanent Remote Crypkey license please call our office @ (403) 777-9454. The user should refer to the License Configuration section in the manual to generate a site code.

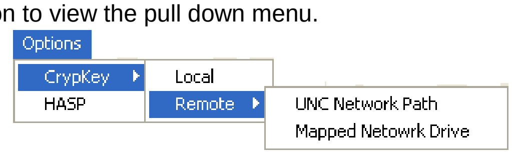


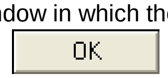
1. To activate the Power*Suite License Selector **click** on the  **button** on the taskbar and **click** on **All Programs** and select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the 

selection. This will activate the License Selector window.

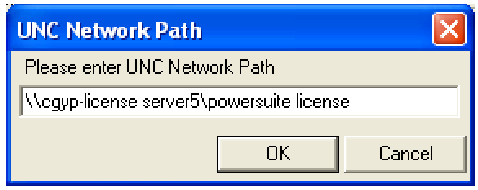


2. **Click** on the **Options** selection to view the pull down menu.

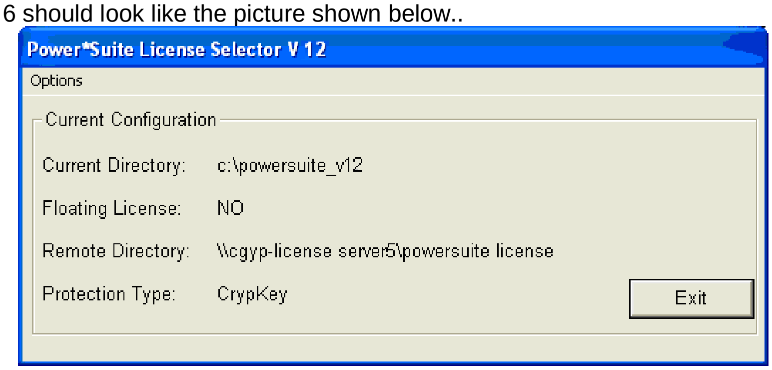


3. **Select Crypkey** to activate a pop-out menu.
4. **Select Remote** to activate another pop-out menu.
5. **Select** either the **UNC Network Path** or the **Mapped Network Drive** selection to direct the Power*Suite applications to the location of the licensing files. The Protection type should read Crypkey as viewed in the Power*Suite License Selector window as well as the path to the remote directory where the license files are located as shown above. Refer to step 6 or 7 depending on your application.
6. **UNC Network Path** will activate a window in which the user should type in the path to the Crypkey License files as shown below and then **click** on the 

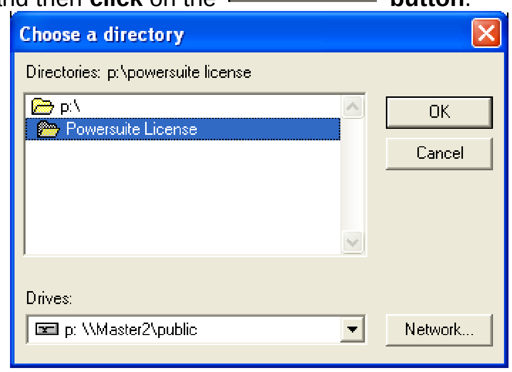
button.



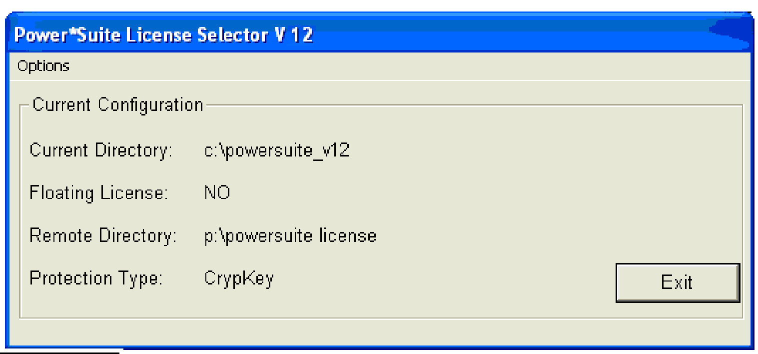
The result of step 6 should look like the picture shown below..



7. Mapped Network Drive will open a window in which the user will select the drive and directory in which the Crypkey License files reside and then **click** on the  **button**.



The result of step 7 should look like the picture shown below.

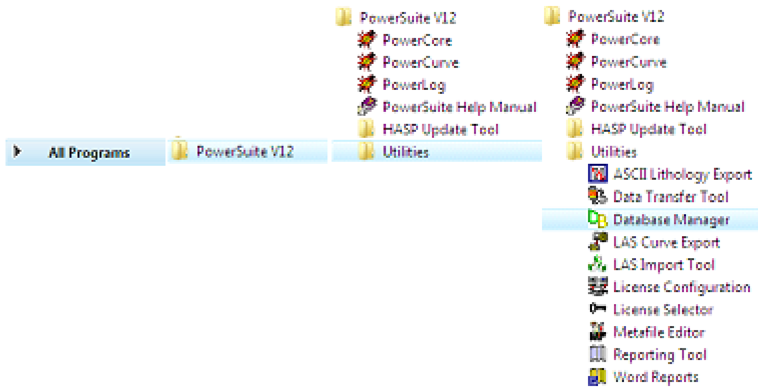


8. **Click** on the  **button**

You are now ready to run Power*Log, Power*Curve, Power*Core or ASCII to LAS depending on your Crypkey remote license and its authorization permissions.

Chapter Sixteen – Database Management

The Database Management tool allows the user to perform basic database functions on Power*Suite's access database. There are times where the performance of the database may become less responsive or slower to retrieve data. This would be case where the user would perform a compaction / repair on the database. The other utility provided would be changing passwords or a backup to the access database.

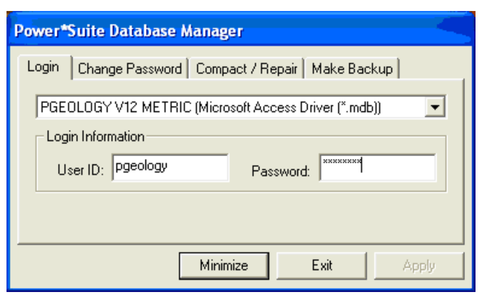


Database Management – How to Change your Password

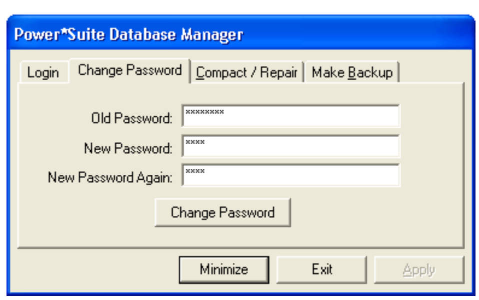
The user cannot be connected to the database (Power*Log, Power*Core, Power*Curve, LAS Export Modules open) when this procedure is performed. If they are open please disconnect by selecting disconnect from the file menu.

The login window information must be filled in correctly for the user to be able to utilize any of the functionalities of this utility.

1. **Click** on the  **button**, **select Programs**, **select Power*Suite_V12, select Utilities** and **click** on the **Database Management** as shown above. This will activate the **Power*Suite Database Manager** window shown below.



2. **Click** on the **down arrow beside the database selection field** and select the database you wish to perform the management function.
3. **Click in the User ID field** to activate a flashing caret and **type in your User ID**. (Default is **pgeology**). Depress the Tab key to move the caret to the Password field.
4. **Type in** your **old password**. (Default is pgeology)
5. **Click** on the Change Password **tab**. This will activate the **Password** window shown below with a caret in the Old Password field.



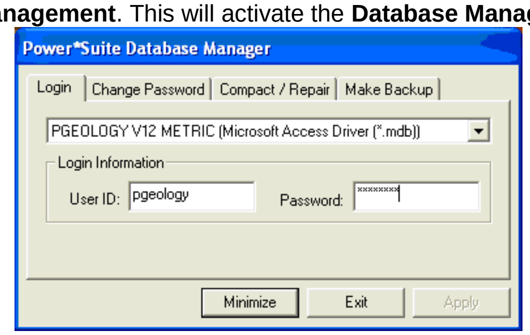
6. **Type** in your **old password**. **Depress the tab key** to advance the caret to the New Password field.
7. **Type** in your **new password**. **Depress the tab key** to advance the caret to the New Password Again field.
8. **Type** in your **new password** again.
9. **Click** on the Change Password **button**. If done correctly, a System message will appear stating Password changed successfully shown below.

10. **Click** on the OK **button** to acknowledge this window.
11. **Click** on the Exit **button** to escape the Power*Suite Database Manager.

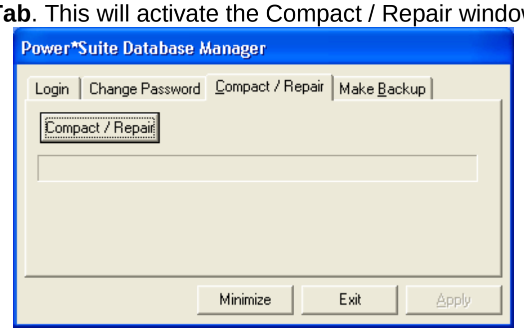
Database Manager – How to Compact / Repair your PowerSuite Database.

The user cannot be connected to the database (Power*Log, Power*Core, Power*Curve, LAS Export Modules open) when this procedure is performed. If they are open please disconnect by selecting disconnect from the file menu.

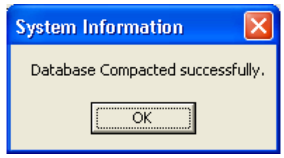
1. **Click** on the **Start** menu selection, **select Programs**, **select Power*Suite_V12, select Utilities** and then **click** on the **Database Management**. This will activate the **Database Management** window shown below.



2. **Click** on the ▼ **down arrow beside the database selection field** and select the database you wish to perform the management function.
3. **Click in the User ID field** to activate a flashing caret and **type in your User ID**. (Default is **pgeology**). Depress the Tab key to move the caret to the Password field.
4. **Type in** your **password**. (Default is pgeology)
5. **Click** on the Compact / Repair **Tab**. This will activate the Compact / Repair window.



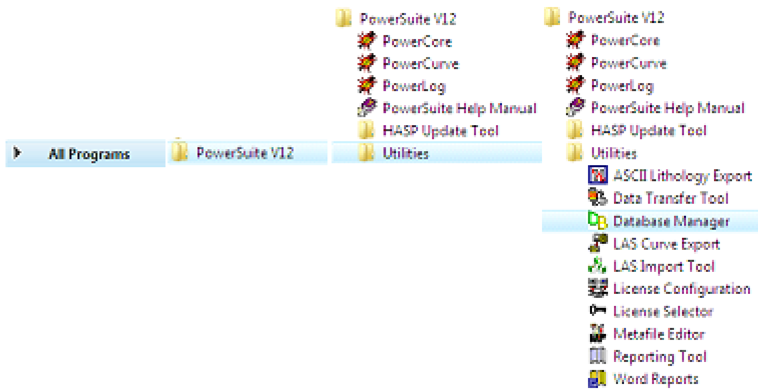
6. **Click** on the Compact / Repair **button**. You will view the database file name and location in the window followed by a system message stating Database Compacted successfully shown below.



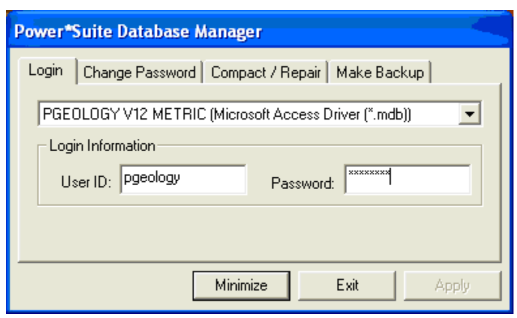
7. **Click** on the  **button** to acknowledge this window.
8. **Click** on the  **button** to escape the PowerSuite Database manger.

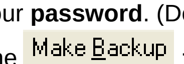
Database Manager – How to Backup your PowerSuite Database.

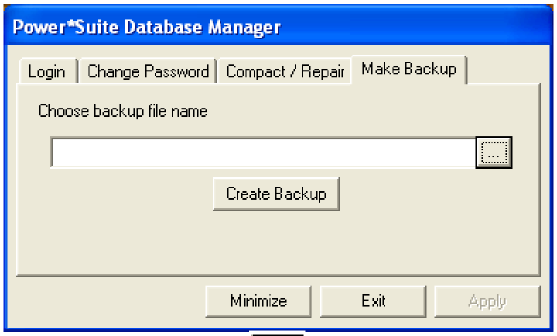
The user cannot be connected to the database (Power*Log, Power*Core, Power*Curve, LAS Export Modules open) when this procedure is performed. If they are open please disconnect by selecting disconnect from the file menu.

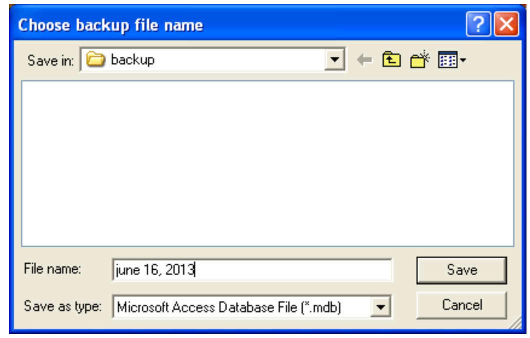


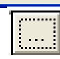
1. **Click** on the **Start button**, **select Programs**, then **select Power*Suite_V12**, then **select Utilities** and then **click** on the **Database Management** as shown above. This will activate the Power*Suite Database Manager window.

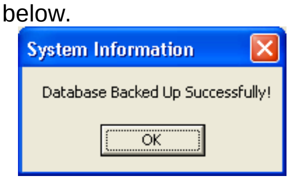


2. **Click** on the **down arrow beside the database selection field** and select the database you wish to perform the management function. The default database is the **PGEOLOGY V12 METRIC (Microsoft Access Driver [*mdb])** shown in the above window.
3. **Click in the User ID field** to activate a flashing caret and **type in your User ID**. (Default is **pgeology**). Depress the Tab key to move the caret to the Password field.
4. **Type in** your **password**. (Default is pgeology)
5. **Click** on the  **tab**. This will activate the Make Backup window shown below.





6. **Click** on the **file location**  **button** to activate the Choose backup file name window.
7. Utilize this window to select or create a new file name as well as direct the file to any current folder on your computer. Once done **click** on the  **button.** This will choose or create the file and show the user the correct path and file name in the window as shown above.
8. **Click on the**  **button**. If created successfully a system message will be generated stating Database Backed Up Successfully shown below.



9. **Click** on the  **button** to acknowledge this window.
10. **Click** on the  **button** to escape the PowerSuite Database manger.

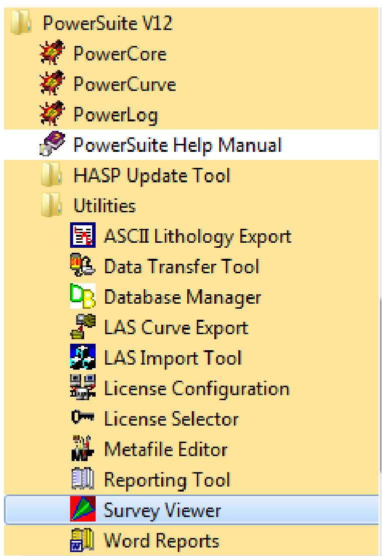
Chapter Seventeen – Survey View Module

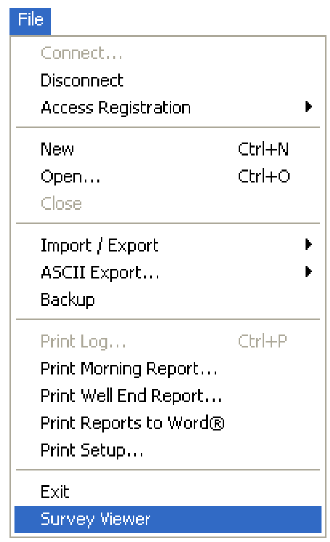
This module allows the user to view a well in multi view angles. We give the user the ability to zoom in or out as well as up or down and view the well path in four (4) separate views. The views are **Plan view** (from the top), **Vertical Section view** (parallel to the target azimuth), **Cross Section view** (right angles to the target azimuth) and a **User Defined view** where the user can spin the view to any angle they wish. Each view can be captured separately or the capture can be taken of all four views at once. The screenshots taken in this module can then be printed with the striplog.

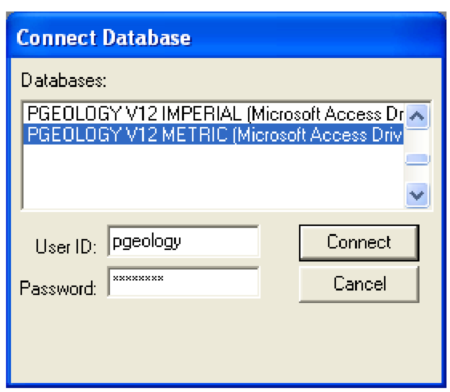
Operating Procedures

1. **Click** on the 

button, **select Programs**, select **POWER*SUITE_V12**. Then, select **Utilities** and **click** on the **Survey View** selection as shown above or if you are in the applications select **Survey View**  **Icon on the Toolbar** OR go under the **File Menu in Power*Log / Curve / Core and select the Survey Viewer.** If you are not in our application (Log / Curve /Core) this will activate the **Connect Database** window shown below.





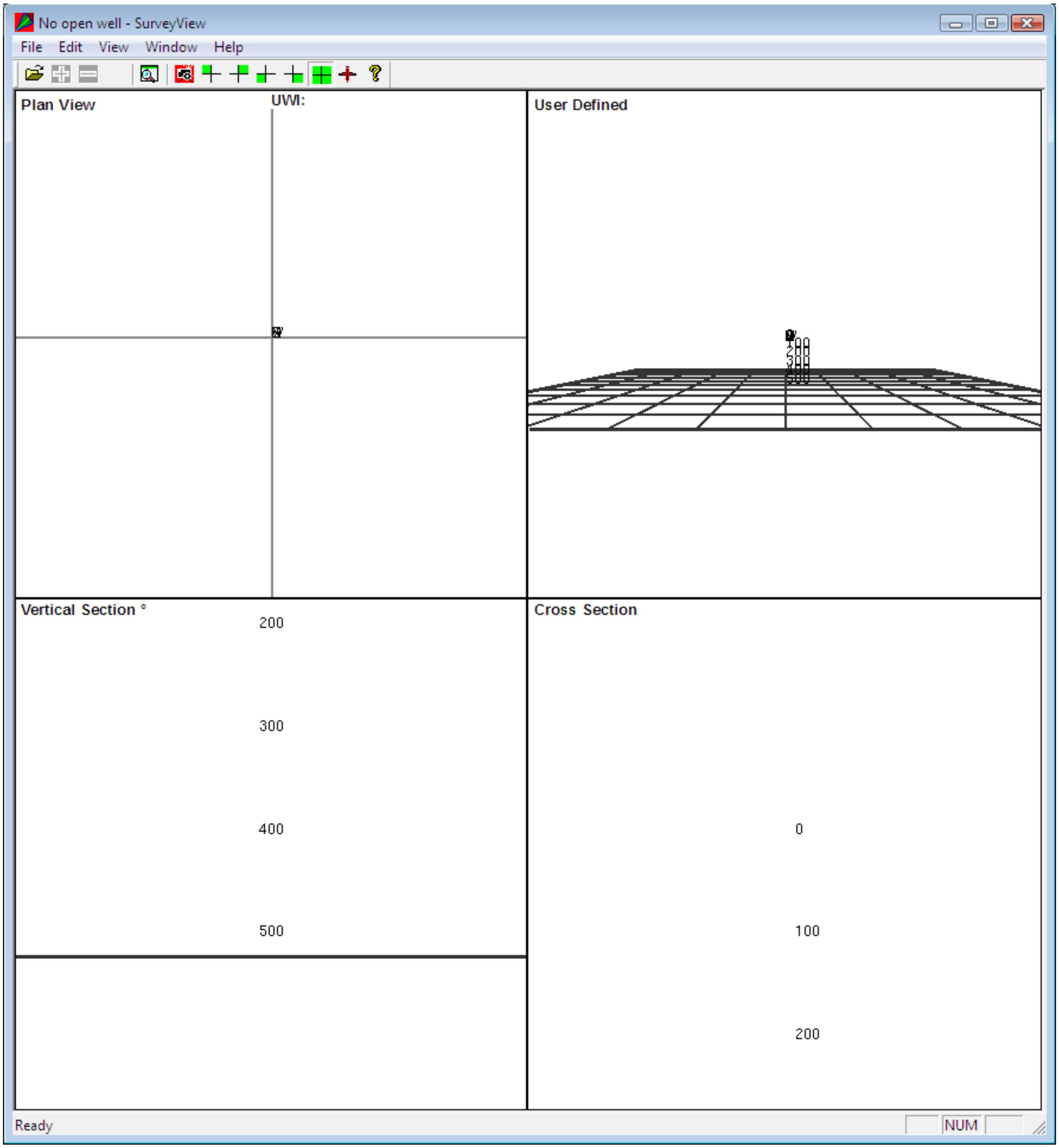


Connecting to a Database…

1. **Highlight the database** you wish to connect to by **clicking on it**. The default after loading the Power*Suite software is the **PGEOLOGY V12 METRIC (Microsoft Access Driver [*.mdb])**. This will be the database which the Power*Suite export files will be automatically imported to.
2. **Type** in your **User ID.** The default User ID is "**pgeology***" and is displayed as the default in this field. The user can simply **Tab** to the **Password field**.

3. **Type** in your **Password.** (The default **Password** is "**pgeology**").

4. **Click** on the Connect **button** to complete the connection or **press** the **Enter key** on your keypad. This will activate the Survey View window shown below.



Note: It is important to know some of the well location information before you proceed with step 1. If you are in the DLS land survey system you should know your metes and bounds surface hole coordinate values and if you are in the NTS survey system you should know your surface hole location identification.

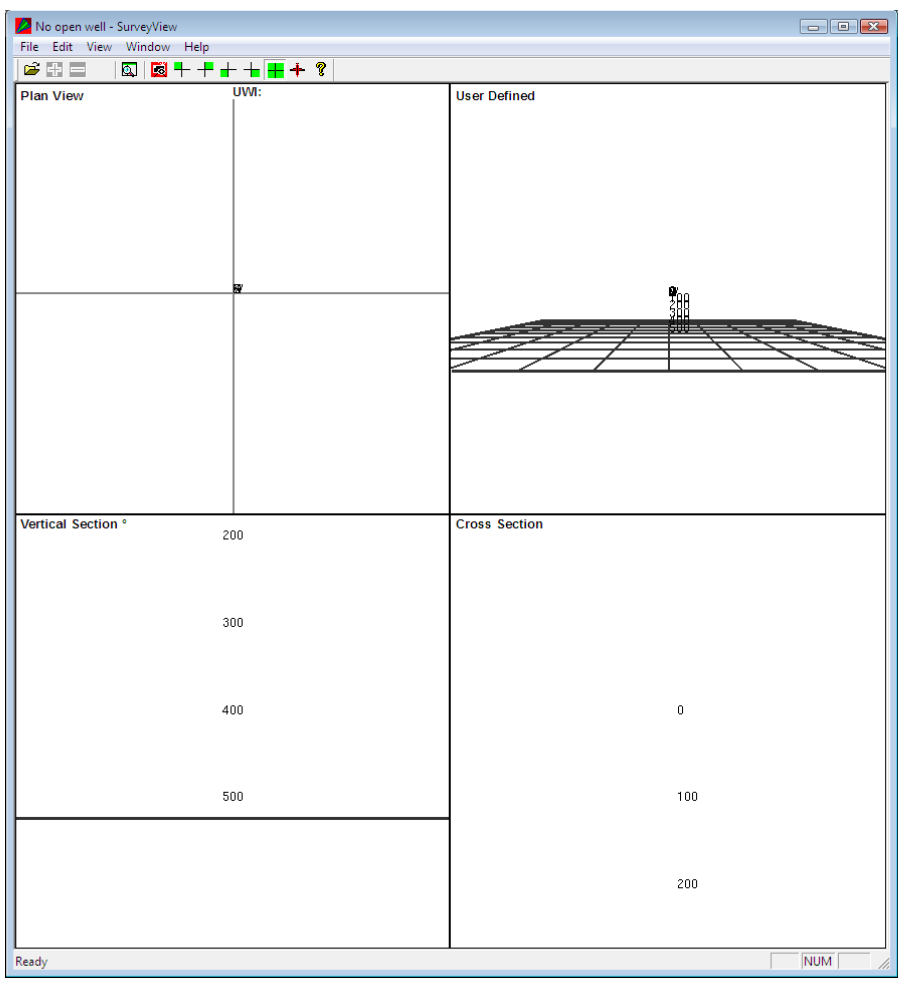
File Menu – Survey View Module

This module allows the user to view a single well or multiple wells in multi view angles. We give the user the ability to zoom in or out as well as up or down and view the well path in four (4) separate views. The views are **Plan view** (from the top), **Vertical Section view** (parallel to the target azimuth), **Cross Section view** (right angles to the target azimuth) and a **User Defined view** where the user can spin the view to any angle they wish. Each view can be captured separately or the capture can be taken of all four views at once. The screenshots taken in this module can then be printed with the striplog and the well end report.

Note: The user only has to fill in the metes and bounds for a single well but you must fill in the longitude and latitude fields for all subsequent well plots. The subsequent wells must be within a reasonable distance from the original well for it to plot.

Operating Procedures

1. **Click** on the **Survey View**  **Icon on the Toolbar** OR go under the **File Menu in Power*Log / Curve / Core and select the Survey Viewer.** This will activate the Survey View window shown below.

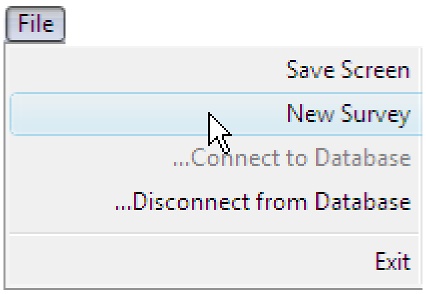


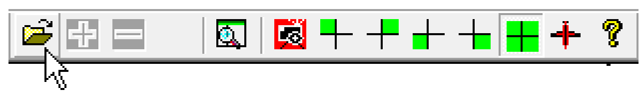
Note: It is important to know some of the well location information before proceeding with step 1. If you are in the DLS land survey system you should know the metes and bounds for the surface hole coordinate values and if you are in the NTS survey system you should know your surface hole location identification. If you are adding a second well to the view you must know the longitude and latitude of the surface hole location in degrees, minutes and seconds down to 3 decimal places

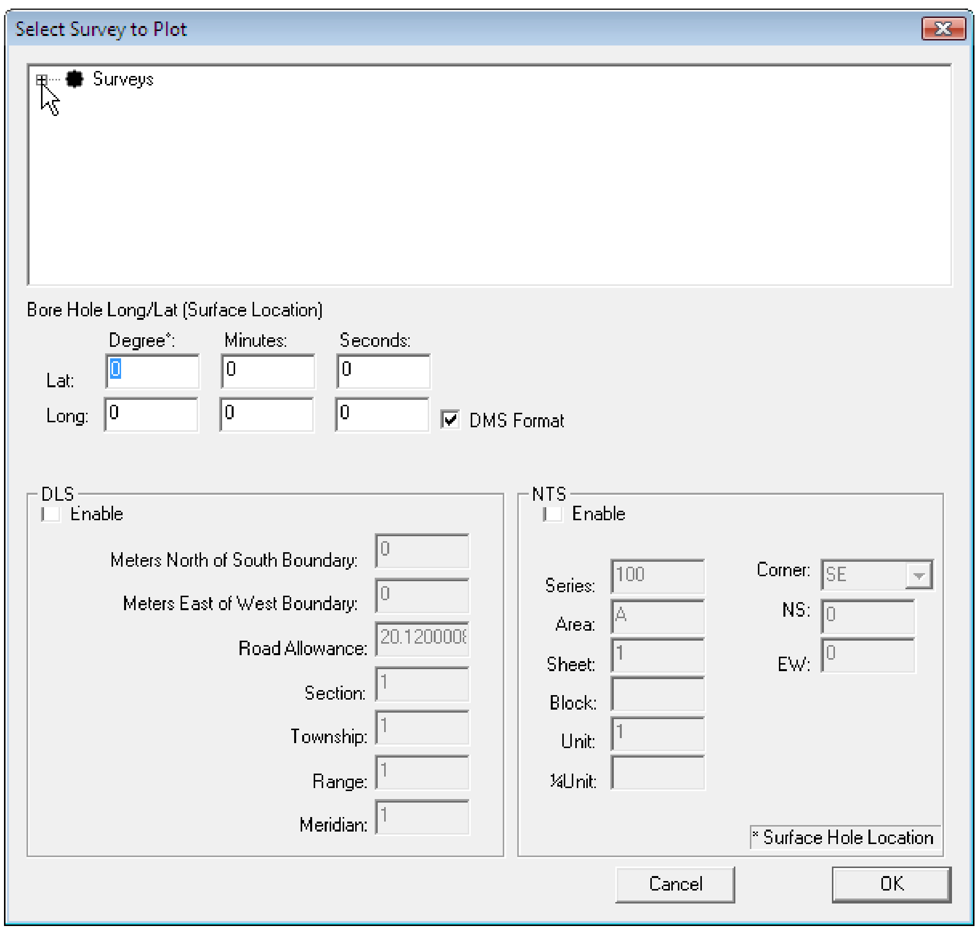
New Survey Selection – This selection allows the user open a set of surveys for a well (both prognosis and actual surveys) and see them plotted in the 4 views available.

How to Open a set of Surveys for a well.

1. This will activate the survey view window shown above. **Click** on the **New Survey button** on the toolbar **or click** on **New Survey** from the **File** menu selection to activate the Select Survey to Plot window.





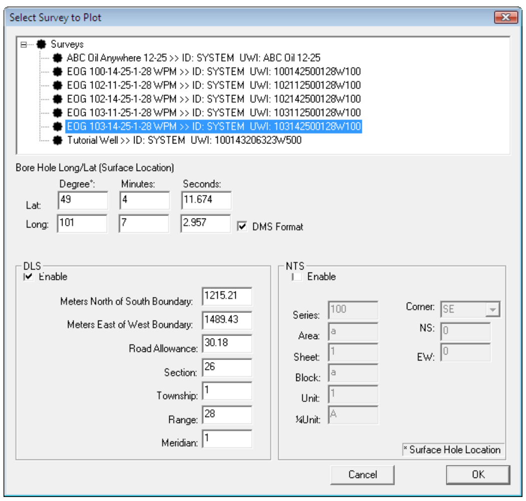


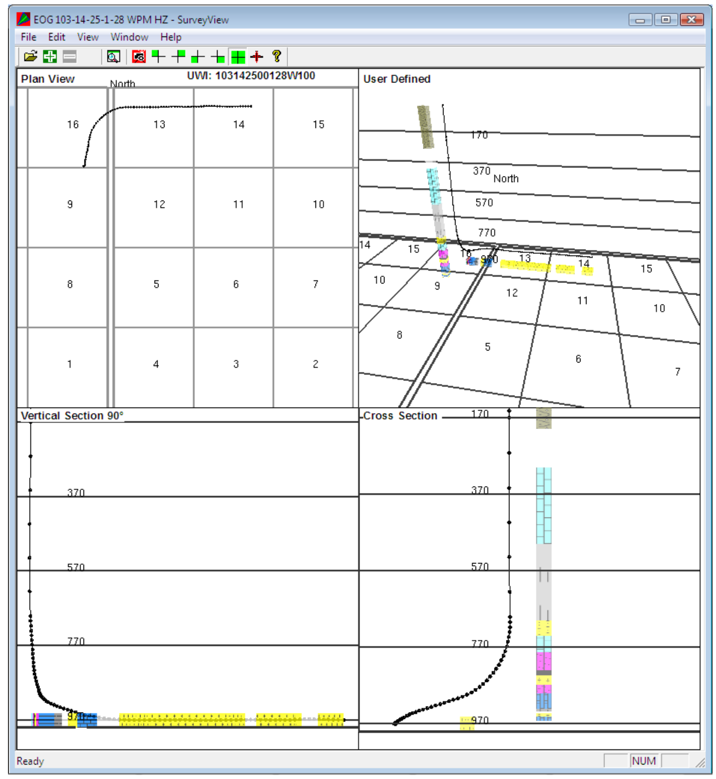
2. **Click** on the + beside the Surveys to expand the list of surveys that are in the database and then select the well by highlighting it with the mouse pointer. Then you will want to **enable the check box**

and fill in the **DLS** coordinates or the **NTS** values as indicated in the window shown below. If your survey system does not fall into these survey systems then leave them unchecked and your well will be in the centre of a generic grid system as viewed in the Plan and user defined views. Then click on the 

button to activate the survey view window with your surveys from this well.

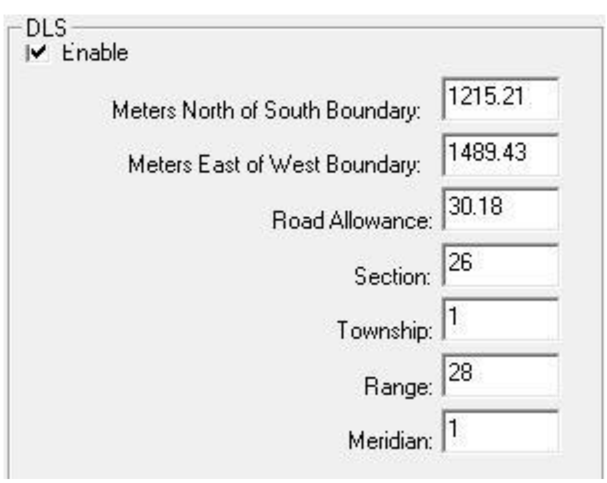
DLS Example





The surface hole Longitude and Latitude fields to not have to be filled in if this is the first well to plot in the survey view application. Any subsequent well data to be displayed the user must fill in the surface hole well co-ordinates for both Latitude and Longitude in degrees minutes and seconds and we will utilize these fields to get subsequent well data onto the plot. If you enable the check box beside the DLS your Plan view and User-defined view will have the DLS grid system marked. The DLS Survey breakdown would be as follows for this example location

09-26-001-28 W1M. Where the **09** is the **Location**, **26** is the **Section**, **001** is the **township** and **28** is the **range** and the **1** is the **meridian**

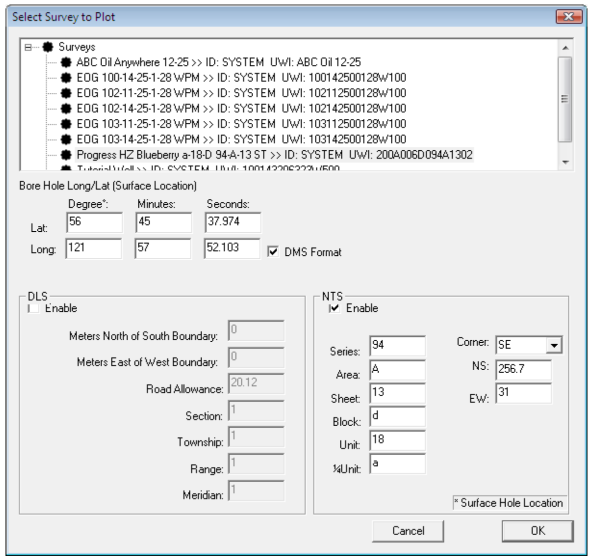


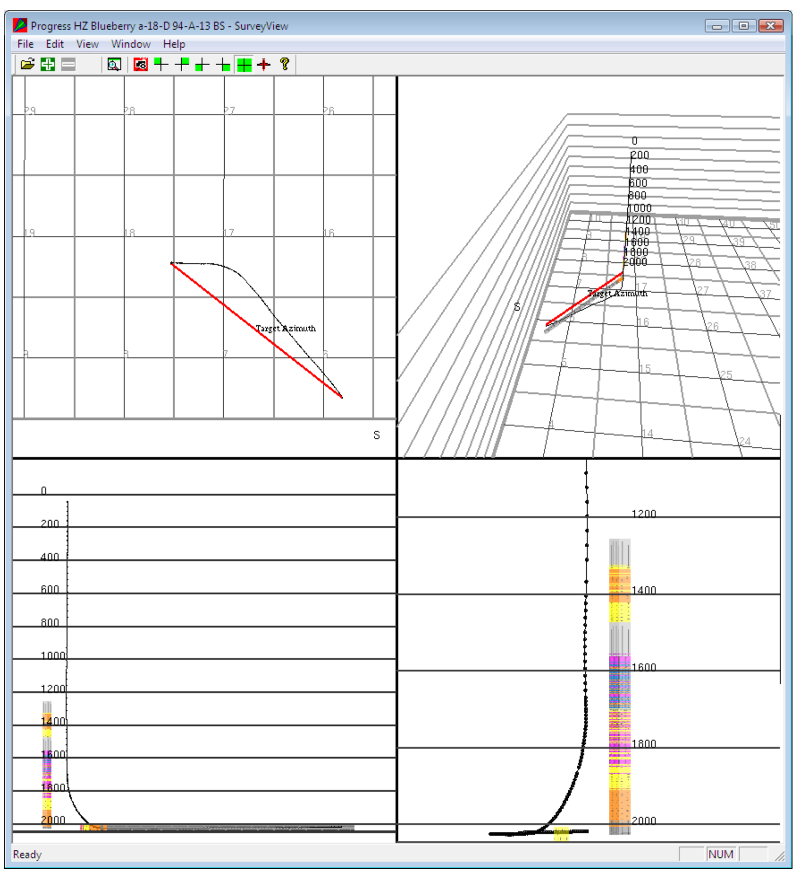
The **Meters North of the South Boundary** must be just that. If your survey plat gives you from the north boundary, then you have to subtract that number from 1,609.34 m to give you the meters North of South Boundary. The **Meters East of the West Boundary** must be just that. If your survey plat gives you from the east boundary, then you have to subtract that number from 1,609.34 m to give you the meters East of West Boundary. The **Road Allowance** field (these are dead areas in the DLS grid system) is traditionally the default value (20.12) but can in some places (30.18). The **Township field** (Values from 1 to 126) depends on the well location. It is necessary because we have to accommodate

for correction lines if your well crosses those on the plan or user defined views. The **Section** field (Values 1-36) depends on the well location. It is necessary because we have to accommodate for road allowances if your well crosses those on the plan or user defined views

3. **Click** on the  **button**. If done correctly and you have sufficient surveys you should get the survey window filled in with the four (4) views of your well bore. You should see something similar to one of the Survey window shown above.

NTS Example

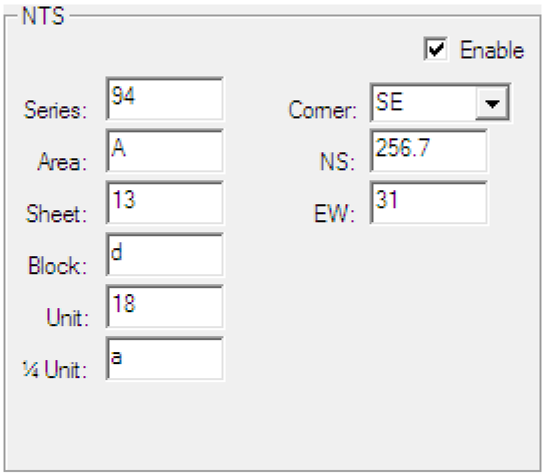




If you **enable the check box** beside the NTS your Plan view and User-defined view will have the NTS grid system marked.

Below is an example of the NTS survey system location. **Remember we are dealing with the surface location.**

Below is an example of the NTS survey system location. **Remember we are dealing with the surface location.**



a-18-D / 94-A-13 whereas **a** is the **¼ Unit**, **18** is the **Unit**, **D** is the **block**, **94** is the **series**, **A** is the **Area** and **13** is the **sheet**.

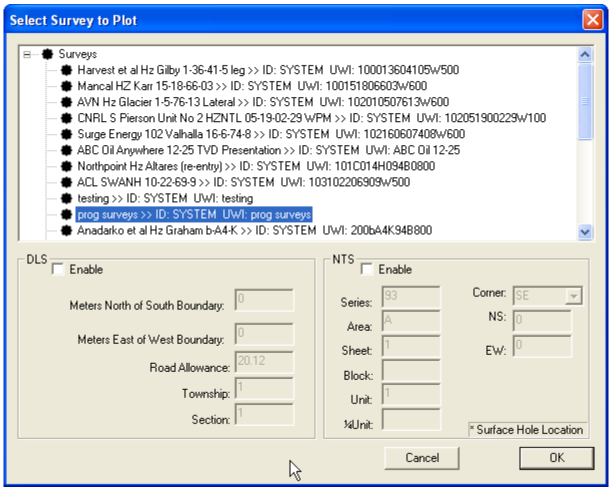
Fill in the surface location fields from the surface location given to you in the survey plat. In this NTS system we can use any corner for the measurements on the surface location but you must pick one from the drop box Then fill in the **Meters** from the **North / South Boundary**. Then fill in the **Meters** from the **East / West Boundary.** If you are **adding multiple wells** then you **must** also **fill** the surface hole **Longitude and Latitude** fields to not have to be filled in if this is the first well to plot in the survey view application. Any subsequent well data to be displayed the user must fill in the surface hole well co-ordinates for both Latitude and Longitude in degrees minutes and seconds and we will utilize these fields to get subsequent well data onto the plot.

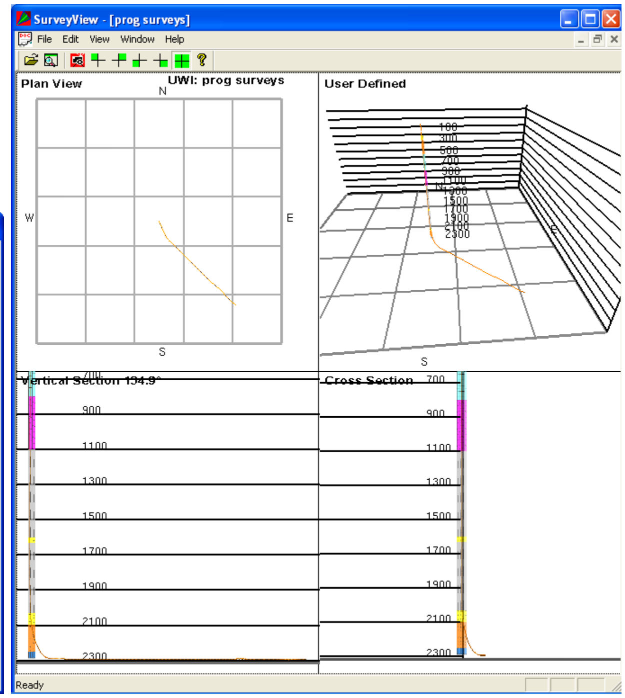
Fill in the surface location fields from the surface location given to you in the survey plat. In this NTS system we can use any corner for the measurements on the surface location but you must pick one from the drop box Then fill in the **Meters** from the **North / South Boundary**. Then fill in the **Meters** from the **East / West Boundary.** If you are **adding multiple wells** then you **must** also **fill** the surface hole **Longitude and Latitude** fields to not have to be filled in if this is the first well to plot in the survey view application. Any subsequent well data to be displayed the user must fill in the surface hole well co-ordinates for both Latitude and Longitude in degrees minutes and seconds and we will utilize these fields to get subsequent well data onto the plot.

3. **Click** on the 

button. If done correctly and you have sufficient surveys you should get the survey window filled in with the four (4) views of your well bore. You should see something similar to one of the Survey window shown above.

No Survey System

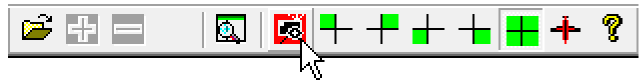


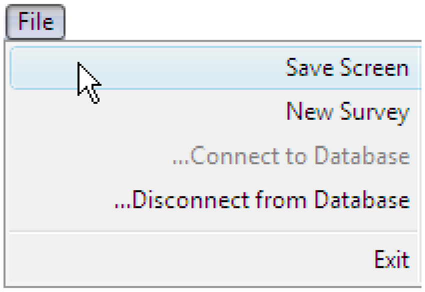


If you **do not enable** the check boxes beside the DLS or NTS your Plan view and User-defined view will have a generic grid system marked and your well centre will be right in the middle of the plot.

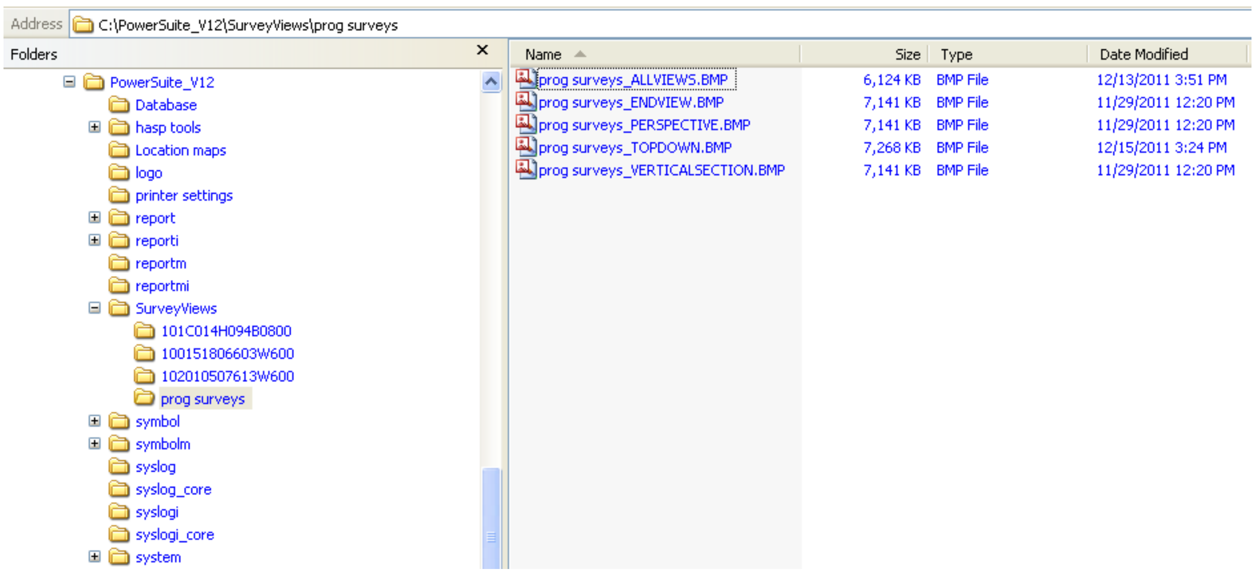
3. **Click** on the  **button**. If done correctly and you have sufficient surveys you should get the survey window filled in with the four (4) views of your well bore. You should see something similar to one of the Survey window shown above.

File Menu- Save Screen





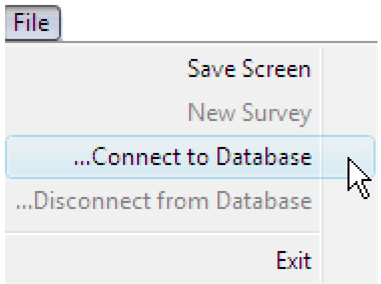
Save Screen Selection – This allows the user to capture and save a screen shot of the survey view at the time of selecting. The User can also **Click** on the **Icon** on the **tool bar**. The user can save up to five (5) screen shots. These screen shots can be printed along with the striplog in our Power*Suite applications (Log, Curve, Core) as well as the well end report printing module. The screen shots will be saved in the PowerSuite_V12/SurveyViews/UWI folder for the well. A screen capture of the directory structure is shown below.

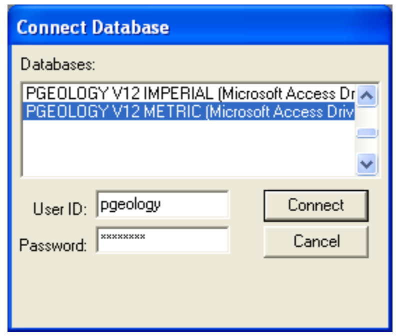


File Menu- Connect to Database

Connect to database Selection – This selection allows the user to connect to a PGEOLOGY V12 database.

1.) Click on the File Menu and Select …. Connect to Database. This will activate a **Connect Database** window.





2.) Highlight the **PGEOLOGY V12 METRIC (Microsoft Access Driver[*.mbd]))** database by **clicking** on it once.

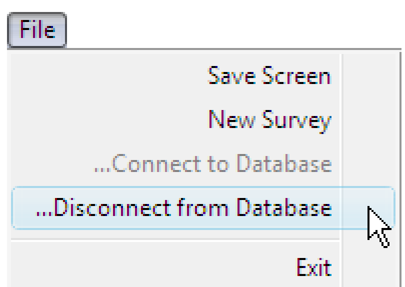
3.) Move your mouse pointer to the **User ID** field and **click**. This will activate a flashing cursor in the **User ID** field. **Type** "**pgeology"** in the **User ID** field. **Press** the **Tab** key on the keyboard to move to the **Password** field.

4.) **Type** "**pgeology"** in the **Password** field and then **click** on the  **button**. The program will now load various dictionaries and then activate an **Open Log** window.

File Menu- Disconnect to Database

Disconnect from Database Selection – This selection allows the user to disconnect from a PGEOLOGY V12 database.

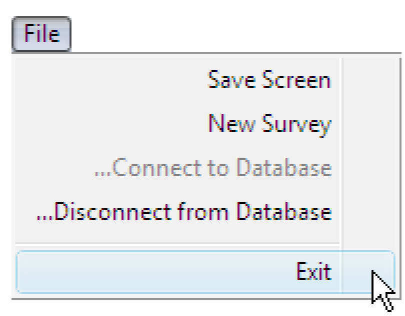
1.) Click on the File Menu and Select …. Disconnect to Database. This will **disconnect you from the Database**.



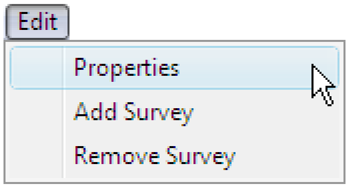
File Menu- Exit

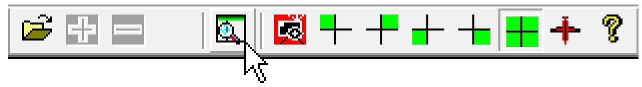
Exit Selection – This selection allows the user to connect exit or close the survey viewer application.

1.) Click on the File Menu and Select Exit..



Edit Menu - Properties



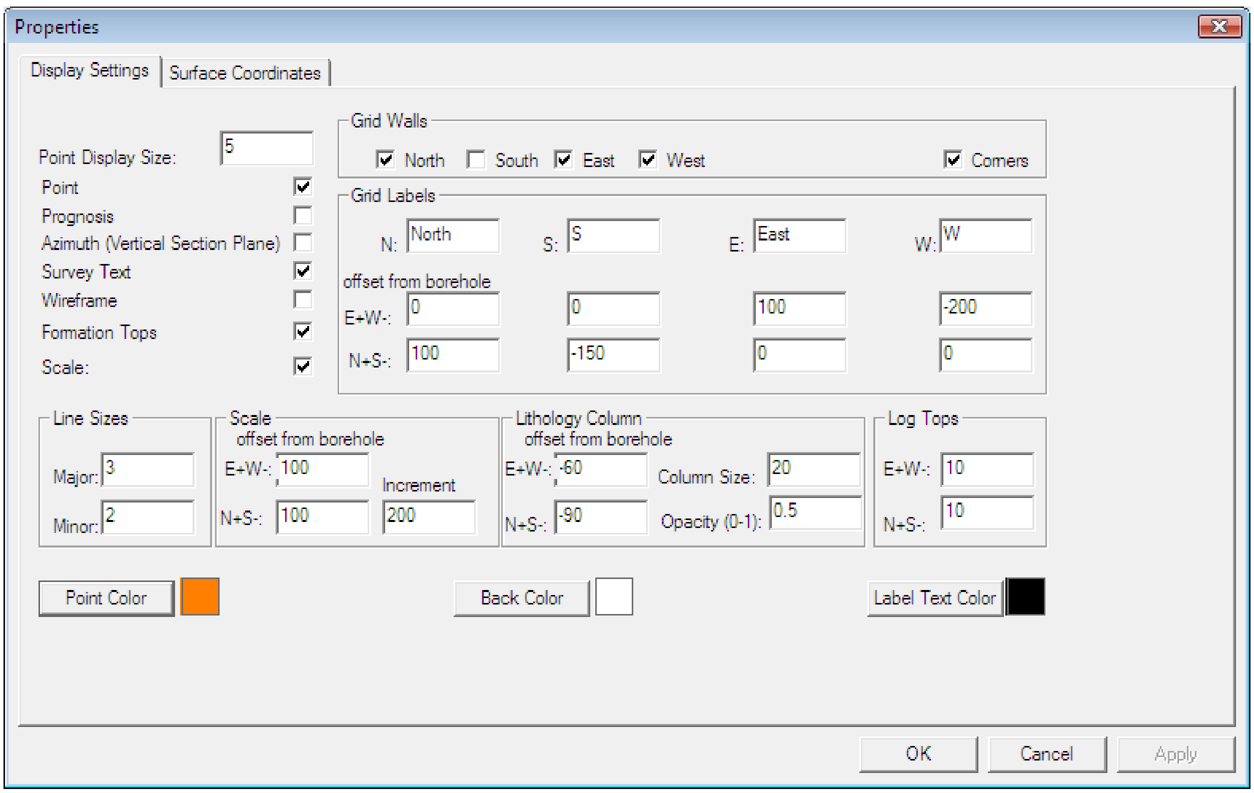


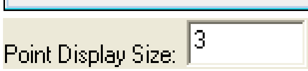
The Properties menu item allows the user to customize the look of the views. There is something to note here that if you make changes to one view they all change so beware.

1. **Click** on the **Properties** selection under the edit pull down menu or **click** on the **icon** on the tool bar. Another way to activate this menu is to right click on the view and select the properties option from the pop out menu. This will activate the edit window for the survey view application as shown on the next page.

Overview of Properties Window

Display Setting Tab

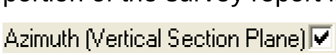




The **Point Display Size** setting allows the user to define the size of the survey points in the survey view displays. If the Point Display is not checked, it will also control the thickness of the line drawn to represent the well path.

The display **Point** check box changes the display from survey point balls with a thin line connecting the survey balls to a solid line view.

The display **Prognosis** check box setting turns on/off the set of surveys that made up the original prognosis and displays that information. These surveys have to be entered into the Prognosis portion of the survey report in our main applications (Log, Curve and Core) and then calculated.



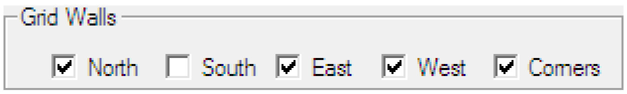
The display **Azimuth** check box allows the user to turn on/off the target azimuth of the well that has to be entered into the Survey Report window. Ultimately, the master survey group controls this display.

Survey Text The display **Survey Text** setting turns on/off survey indicators on the **Plan view only** and these indicators illustrate every 10^{th} survey point in the Master survey group.

Wireframe The display **Wireframe** setting changes the survey point balls from a solid color to a wire frame symbol.

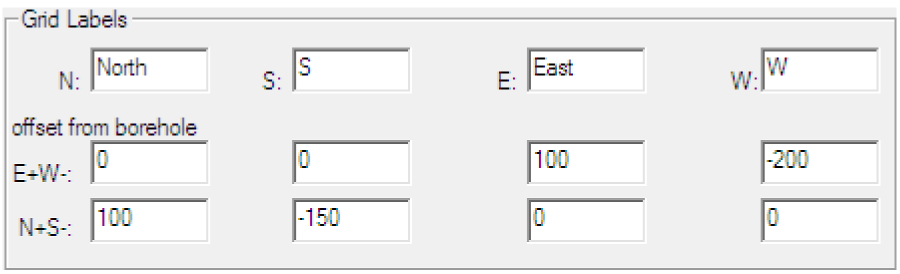
Formation Tops The display Formation tops check box will turn on/off the ability to display the Formation tops entered into Power*Log / Curve or Core and will display the Log / Sample or Prognosed tops as indicated in the Formation tops window.

Scale: The scale check box will turn on/off the ability to display the scale

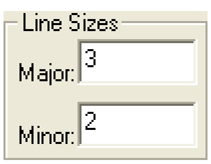


The **Grid Walls** enables the user to turn on/off the exterior walls of the grid system. These walls are displayed in three (3) of the views. These walls can be displayed in the User-defined, Target azimuth and Cross section views. The walls increment is defined by the scale increment of the window.

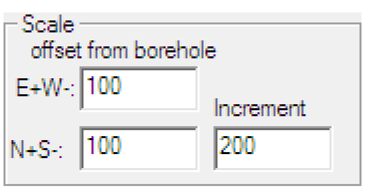
Corners The corners check box turns on/off the corners connecting the grid walls. The ability to turn off the corners will mostly be used in the Vertical Section and Azimuth views if the target azimuth is tangential.



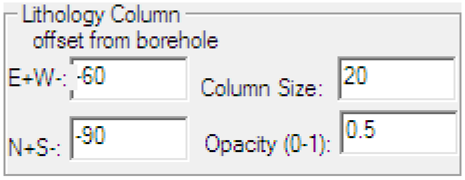
This **Grid Labels** enables the user to control the positioning and label verbiage in two (2) of the views. These labels are displayed in both the Plan view and the User-defined view but cannot be controlled independently. The labels (in this case are North, S, East and W) are displayed in the following example. The E+ / W- axis is left / right with a + value moving it to the right and a – value moving it to the left. The N+ / S- axis is up / down with a + value moving it up and a – value moving it down.



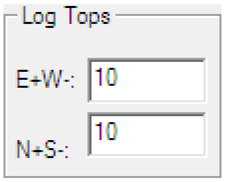
The **Line Sizes** enables the user to change the line thickness on the Plan and user-defined surface grid indications as well as the line thickness in the grid walls. Major lines encompass the exterior borders of a Section in the DLS system, a Unit in the NTS system and the exterior of a no survey system choice. All other lines on the views are minor lines.



The **Scale** enables the user to control where the depth scale is positioned and the increment for the depth scale. The depth Scale is displayed in all views but the Plan view. A positive (+) value in the **E+/W - field** moves the scales to the East with a negative (-) value moves the scale to the West. A positive (+) value in the **N+/S- field** moves the scales to the North with a negative (-) value moves the scale to the South. The **Increment field** allows the user to specify what the wall grid increment will be. The Scale: check box covered earlier will turn on/off the scale.



The **Lithology Offset** enables the user to control where the Interpretive Lithology column (displayed in TVD & Vertical Section) is positioned. The Interpretive Lithology column is displayed in all views but the Plan view. A positive (+) value in the **E+/W- field** moves the Interpretive Lithology to the East with a negative (-) value moves the scale to the West. A positive (+) value in the **N+/S- field** moves the Interpretive Lithology to the North with a negative (-) value moves the scale to the South. The **Colum size** field changes the width of the Interpretive Lithology displayed in the views. The **Opacity field** changes the ability to see through the column to view other data. 0 is transparent and 1 would be solid.

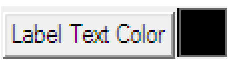


The **Log Tops** enables the user to control where the Formation tops are positioned.. The Log Tops are displayed in all views. A positive (+) value in the **E+/W -field** moves the scales to the East with a negative (-) value moves the scale to the West. A positive (+) value in the **N+/S- field** moves the scales to the North with a negative (-) value moves the scale to the South. The 

check box covered earlier will turn on/off the scale.

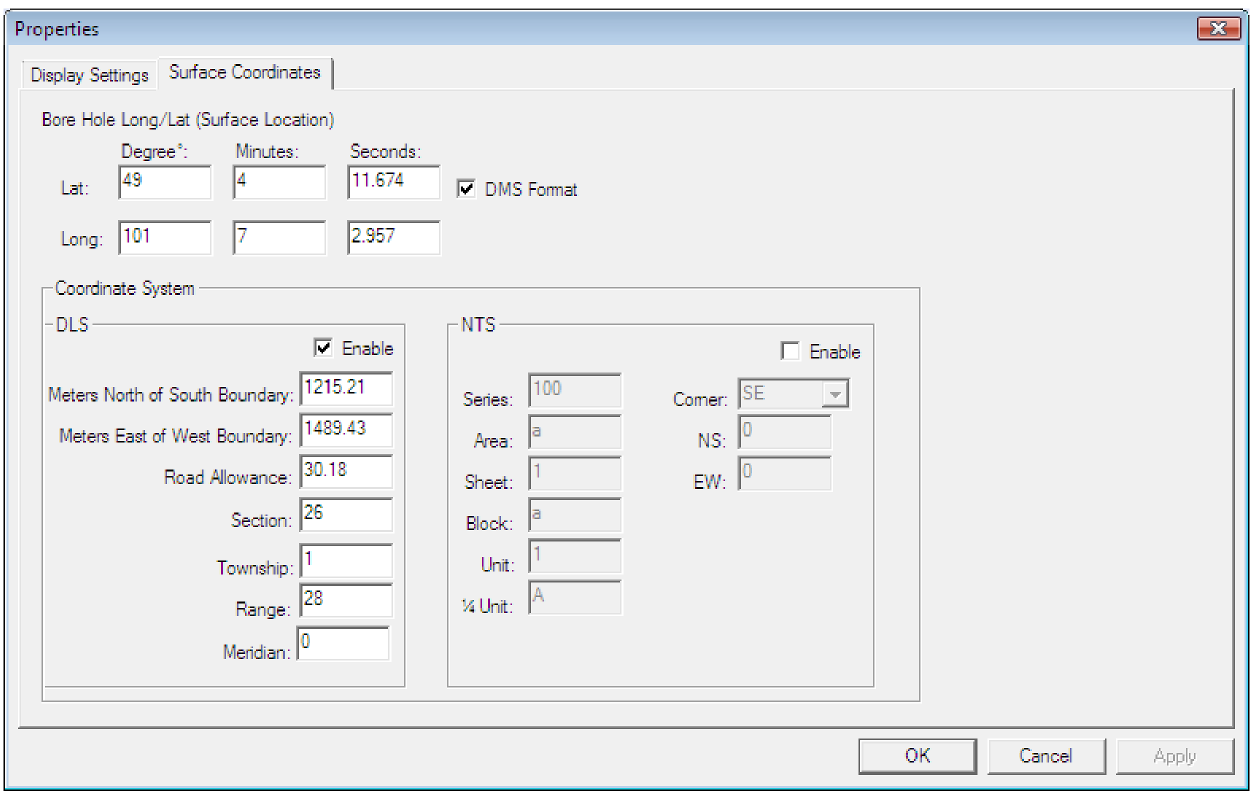
Changes the color of the Survey Points / Line and target azimuth line display.

Changes the background of the entire view.



Changes the text color for the blocks, labels and Formation Tops.

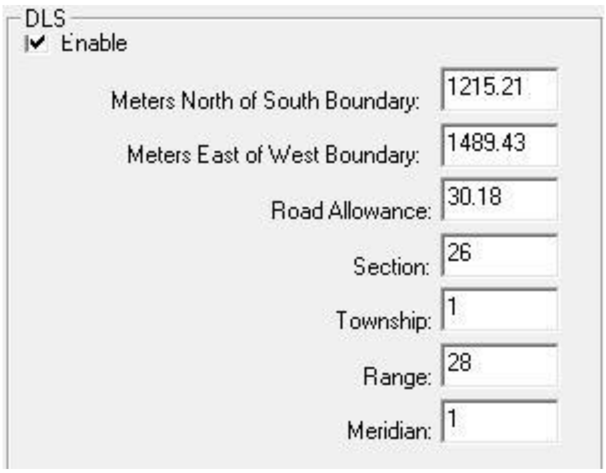
Surface Coordinates Tab (Properties Window)



This portion of the window allows the user to add the long lat for the surface hole which is necessary if this is an additional well to be plotted or correct the DLS or NTS portion of the window. These fields were entered when the survey plot was initially started.

The surface hole Longitude and Latitude fields to not have to be filled in if this is the first well to plot in the survey view application. Any subsequent well data to be displayed the user must fill in the surface hole well co-ordinates for both Latitude and Longitude in degrees minutes and seconds and we will utilize these fields to get subsequent well data onto the plot. If you enable the check box beside the DLS your Plan view and User-defined view will have the DLS grid system marked. The DLS Survey breakdown would be as follows for this example location

09-26-001-28 W1M. Where the **09** is the **Location**, **26** is the **Section**, **001** is the **township** and **28** is the **range** and the **1** is the **meridian**

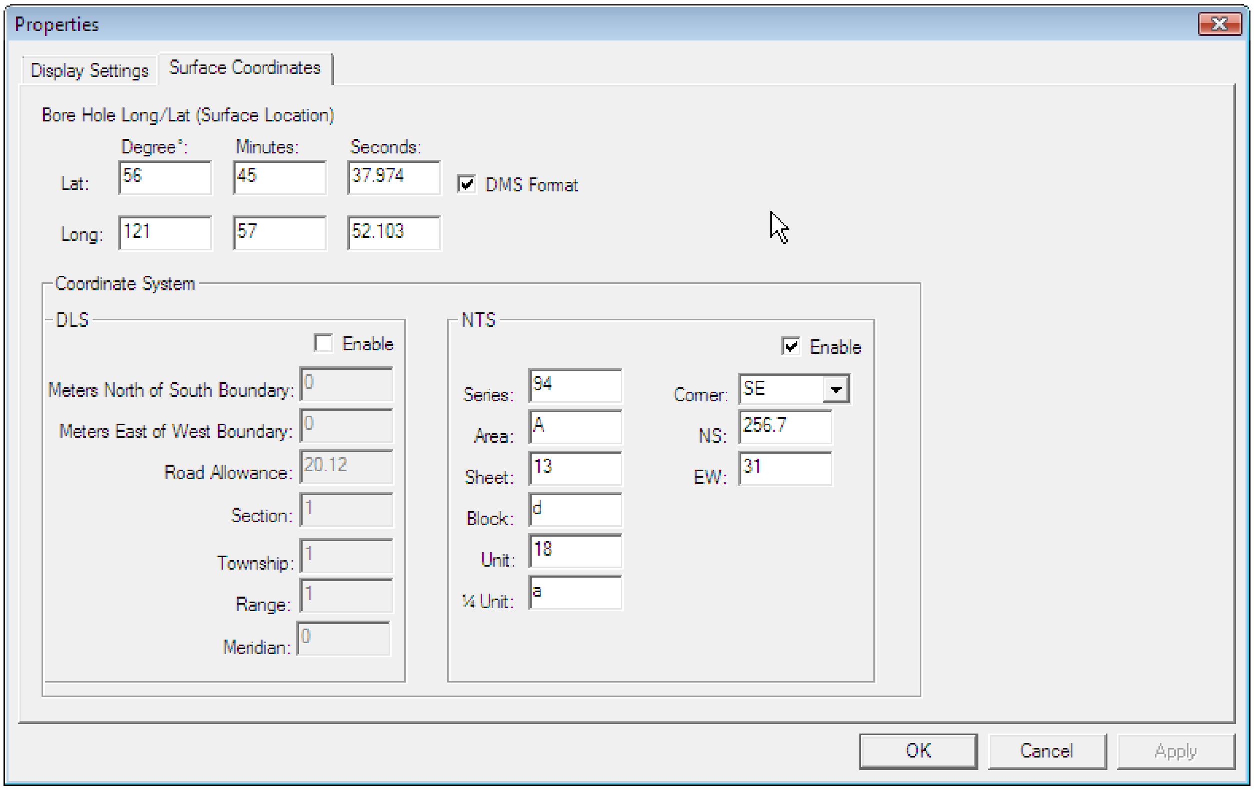


The **Meters North of the South Boundary** must be just that. If your survey plat gives you from the north boundary, then you have to subtract that number from 1,609.34 m to give you the meters North of South Boundary. The **Meters East of the West Boundary** must be just that. If your survey plat gives you from the east boundary, then you have to subtract that number from 1,609.34 m to give you the meters East of West Boundary. The **Road Allowance** field (these are dead areas in the DLS grid system) is traditionally the default value (20.12) but can in some places (30.18). The **Township field** (Values from 1 to 126) depends on the well location. It is necessary because we have to accommodate for correction lines if your well crosses those on the plan or user defined views. The **Section** field (Values 1-36) depends on the well location. It is necessary because we have to accommodate for road allowances if your well crosses those on the plan or user defined views

4. **Click** on the 

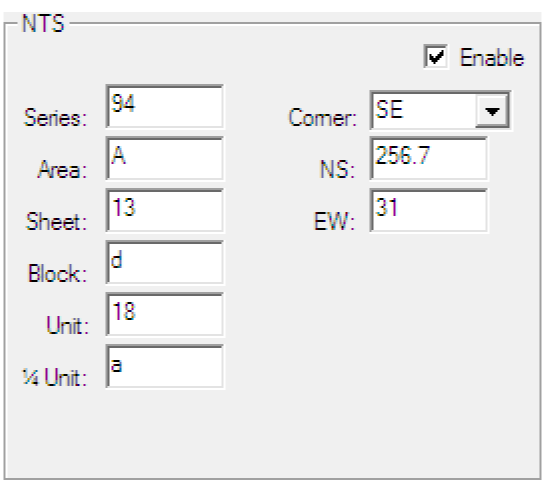
button. If done correctly and you have sufficient surveys you should get the survey window filled in with the four (4) views of your well bore. You should see something similar to one of the Survey window shown above.

NTS Example



If you enable the check box beside the NTS your Plan view and User-defined view will have the NTS grid system marked.

Below is an example of the NTS survey system location. **Remember we are dealing with the surface location.**



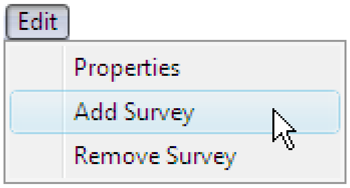
a-18-D 94-A-13 whereas **a** is the **¼ Unit**, **18** is the **Unit**, **D** is the **block**, **94** is the **series**, **A** is the **Area** and **13** is the **sheet**.

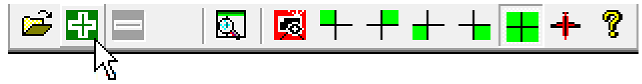
Fill in the surface location fields from the surface location given to you in the survey plat. In this NTS system we can use any corner for the measurements on the surface location but you must pick one from the drop box Then fill in the **Meters** from the **North / South Boundary**. Then fill in the **Meters** from the **East / West Boundary.** If you are **adding multiple wells** then you **must** also **fill** the surface hole **Longitude and Latitude** fields to not have to be filled in if this is the first well to plot in the survey view application. Any subsequent well data to be displayed the user must fill in the surface hole well co-ordinates for both Latitude and Longitude in degrees minutes and seconds and we will utilize these fields to get subsequent well data onto the plot.

4. **Click** on the 

button. If done correctly and you have sufficient surveys you should get the survey window filled in with the four (4) views of your well bore. You should see something similar to one of the Survey window shown above.

Edit Menu – Add Survey

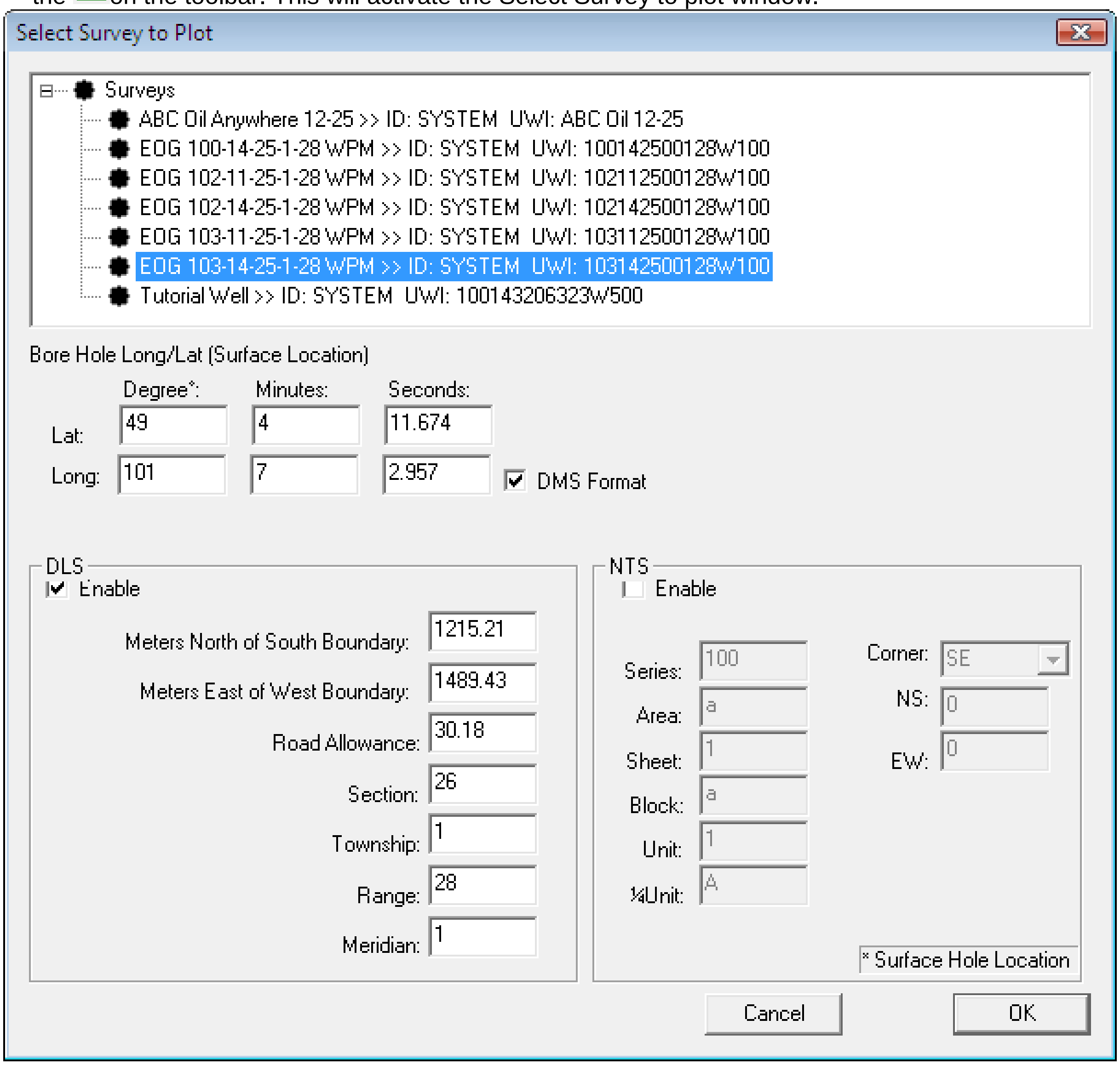




The User can add as many survey plots (as long as they are within a few miles / kilometers from the original well plot. This where the Longitude and latitude for the surface hole location is necessary for the addition well plots to work.

How to add a new survey plot to an existing plot.

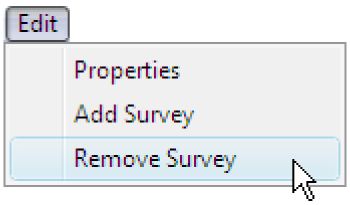
1) **Click** on the **Edit menu** and select the **Add Survey** selection from the pull down menu or **Click** on the  on the toolbar. This will activate the Select Survey to plot window.

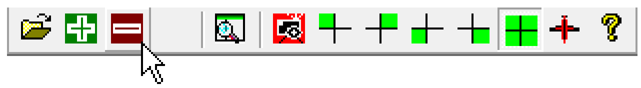


2) **Click** on the **+** beside the **Surveys** to expand the list of surveys that are in the database and then select the well by highlighting it with the mouse pointer. I the well has data from a previous entry **click** on the . **Button**. If not then you will want to fill in the DMS for the surface hole locations longitude and Latitude and then **click** on the  **button** to activate the survey set to the original view.

3) Repeat Steps 1 – 2 to add more survey plots to your original plot.

Edit Menu – Remove Survey plots

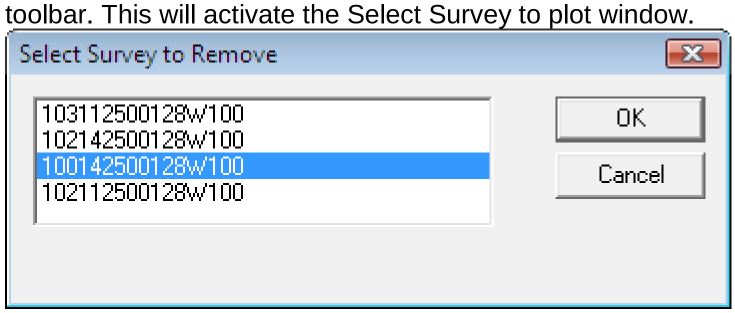




The User can also remove survey plots that were previously added.

How to remove survey plots from an existing plot.

1) **Click** on the **Edit menu** and select the **Remove Survey** selection from the pull down menu or **Click** on the on the toolbar. This will activate the Select Survey to plot window.

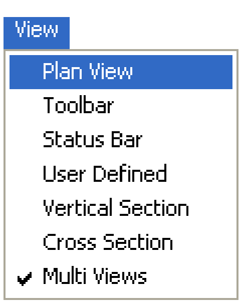


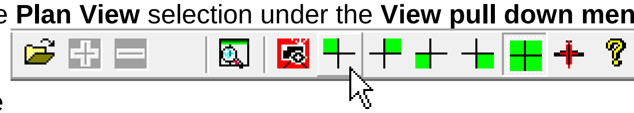
2) **Click** on the **wells UWI** to highlight the survey set and then **click** on the . **Button**.

3) Repeat Steps 1 – 2 to remove more survey plots from your original plot.

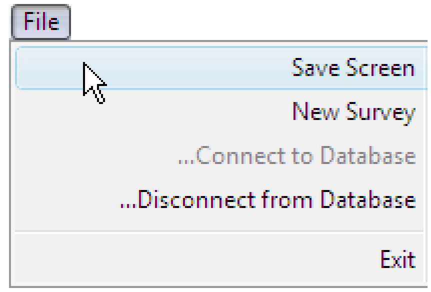
View Menu

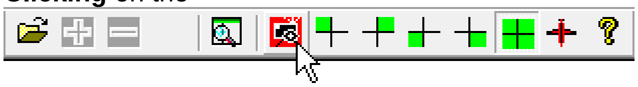
Plan view (isolated)

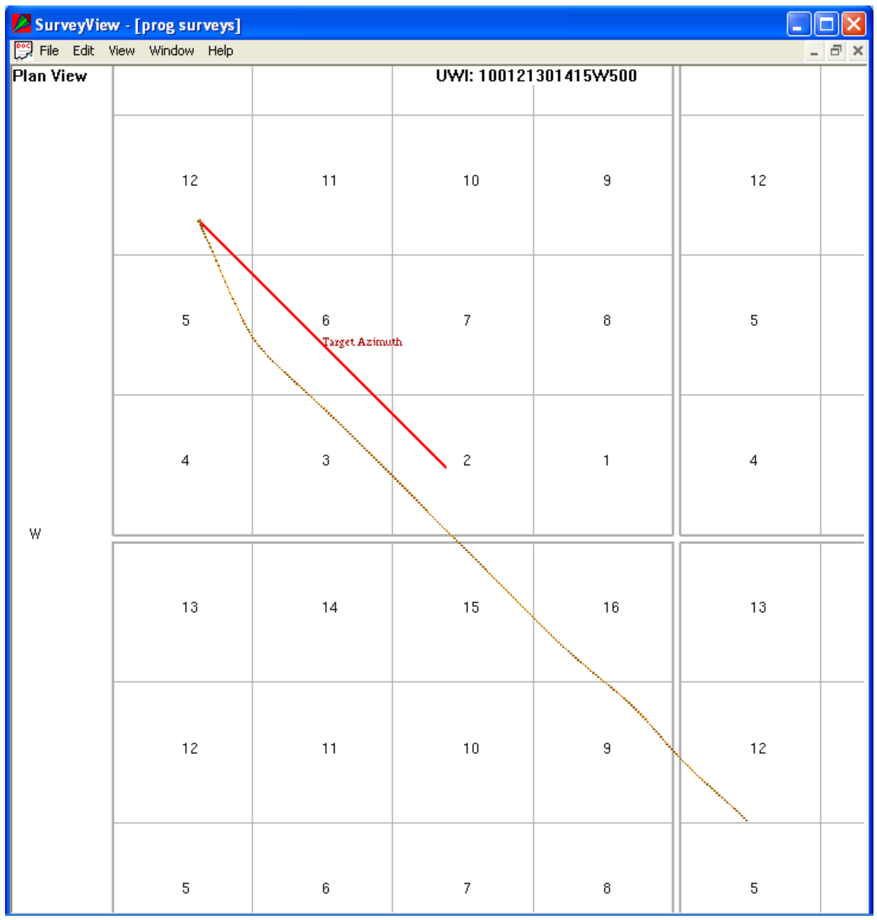


1. **Click** on the **Plan View** selection under the **View pull down menu** or **click** on the  **icon** on the **tool bar.** This will Isolate the plan view and make it bigger.
2. The user can then use the **scroll button** on the mouse to **zoom in or out** of the image (up scroll to zoom out and down scroll to zoom in). The user can also use the **up / down arrows** on the keypad to move the **image up or down** or the **left / right arrows** on the keypad to move the **image left or right**.
3. **Click** on the **properties** selection under the **Edit pull down menu** or

right click on the **image** and **select properties** this would activate the properties window where the user can change what is shown on the view but will be applicable to all views.

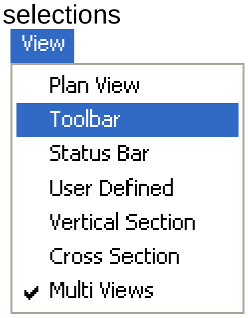


4. Once the view is set up the way you want you can save this by **Clicking** on the  **Icon** on the **tool bar** or the **Save Screen** Selection under the **File pull down menu.** This will save the screen capture and give you the ability to print it out on your striplog in all of our applications.



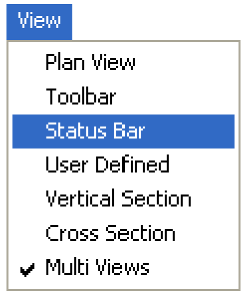
Toolbar Selection

1. **Click** on the **Toolbar** selection under the **View pull down menu** to turn on or off the toolbar. The toolbar is located under the Menu selections

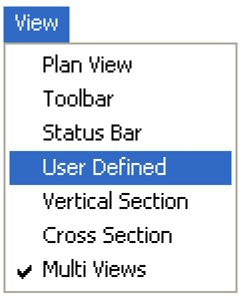


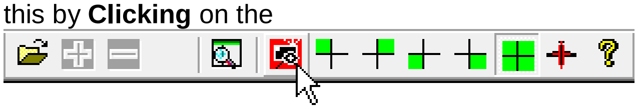
Status Bar Selection

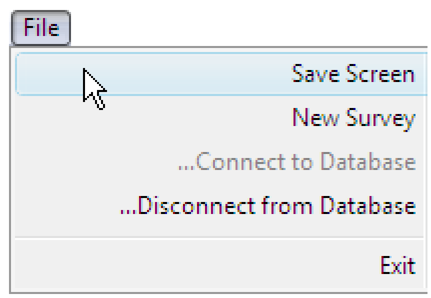
2. **Click** on the **Status Bar** selection under the **View pull down menu** to turn on or off the Status bar. The Status bar is located on the bottom of the Survey View window.

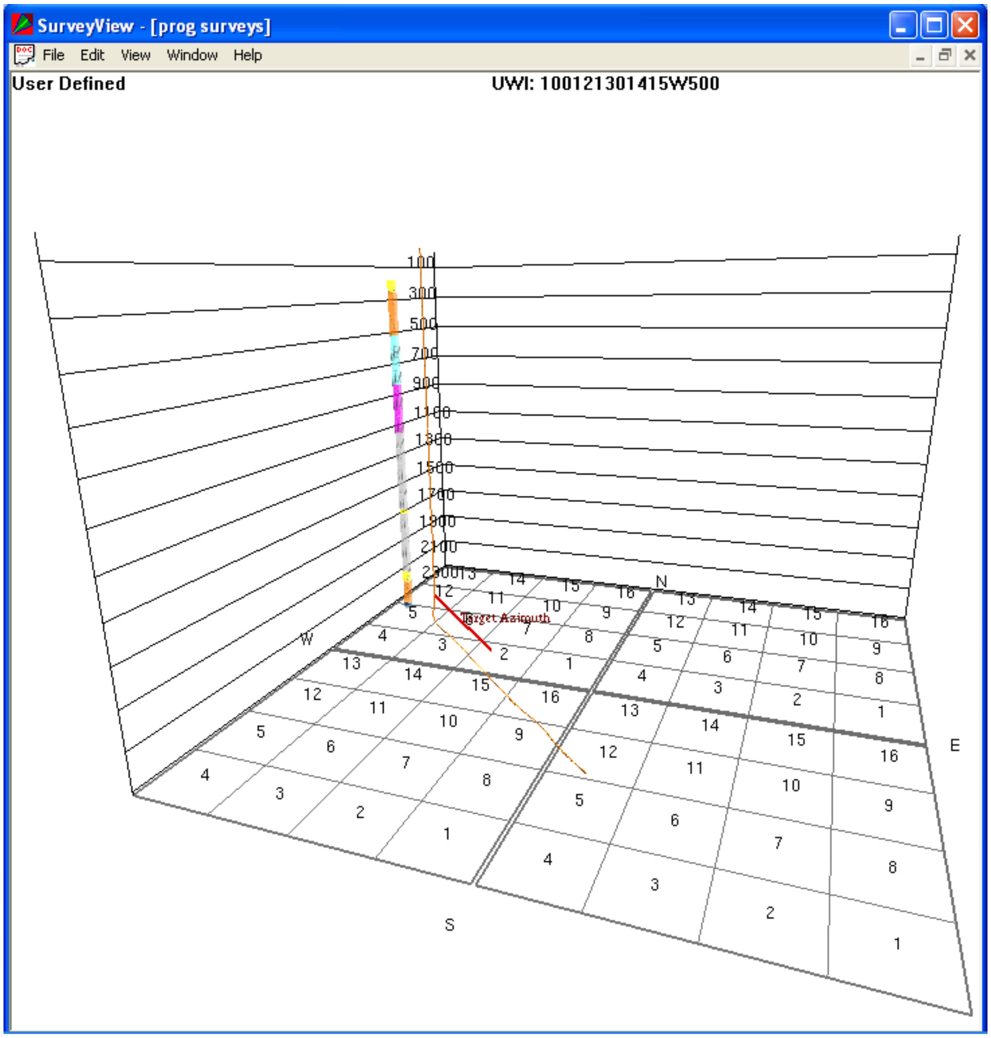


User defined view (isolated)

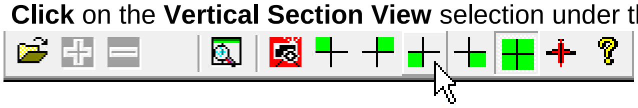
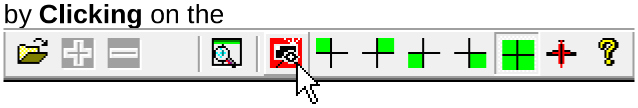


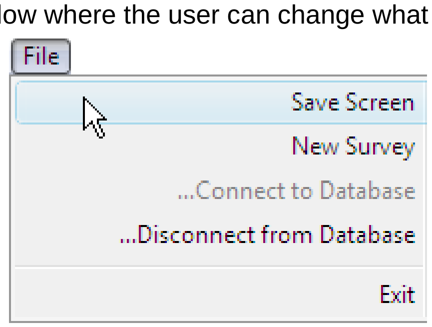
1. **Click** on the **User Defined** View selection under the **View pull down menu** or **click** on the  **icon** on the **tool bar.** This will Isolate the User Defined view and make it bigger.
2. The user can then use the **scroll button** on the mouse to **zoom in or out** of the image (up scroll to zoom out and down scroll to zoom in). The user can also use the **up / down arrows** on the keypad to move the **image up or down.** The user can use their mouse to rotate the view by **clicking and dragging within the view** to rotate the view**.**
3. **Click** on the **properties** selection under the **Edit pull down menu** or **right click on the image** and **select properties** this would activate the properties window where the user can change what is shown on the view but will be applicable to all views.
4. Once the view is set up the way you want you can save this by **Clicking** on the  **Icon** on the **tool bar** or the **Save Screen** Selection under the **File pull down menu.** This will save the screen capture and give you the ability to print it out on your striplog in all of our applications.



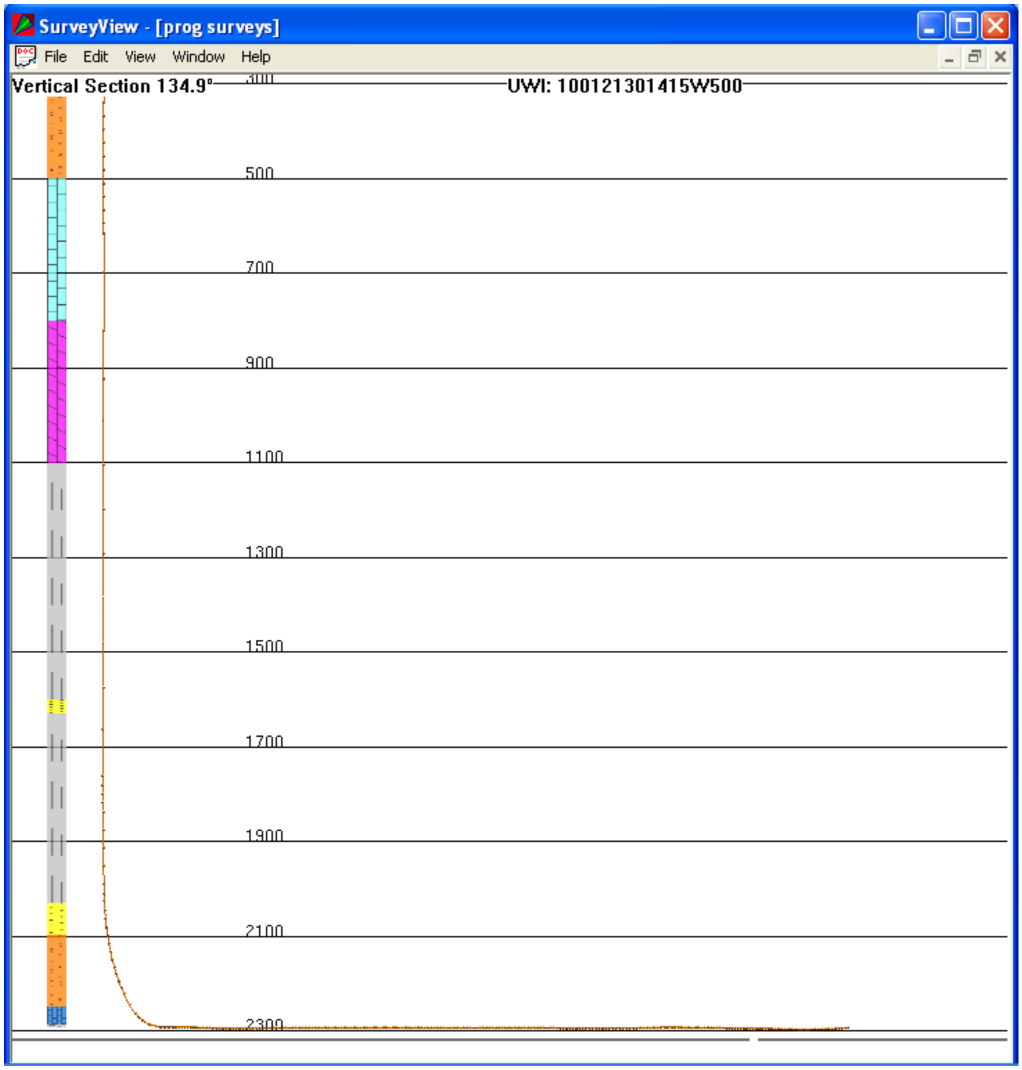


Vertical Section view (isolated)

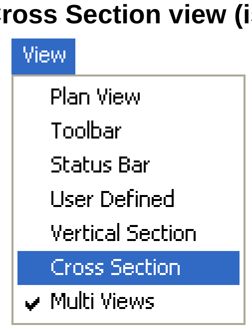
1. **Click** on the **Vertical Section View** selection under the **View pull down menu** or **click** on the  **icon** on the **tool bar.** This will Isolate the plan view and make it bigger. This view is a display of the well bore parallel with the Vertical Section indicated in the Survey window for the Master Survey group.
2. The user can then use the **scroll button** on the mouse to **zoom in or out** of the image (up scroll to zoom out and down scroll to zoom in). The user can also use the **up / down arrows** on the keypad to move the **image up or down** or the **left / right arrows** on the keypad to move the **image left or right**.
3. **Click** on the **properties** selection under the **Edit pull down menu** or **right click** on the **image** and **select properties** this would activate the properties window where the user can change what is shown on the view but will be applicable to all views.
4. Once the view is set up the way you want you can save this by **Clicking** on the  **Icon** on the **tool bar** or the **Save Screen** Selection under the **File pull down menu.** This will save the screen capture

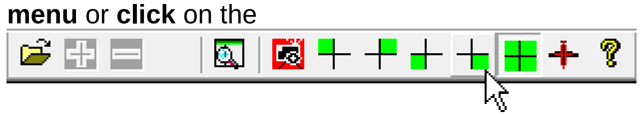


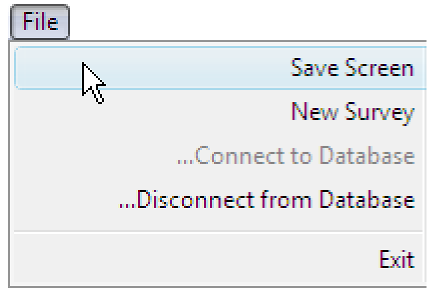
and give you the ability to print it out on your striplog in all of our applications.

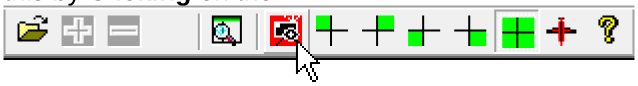


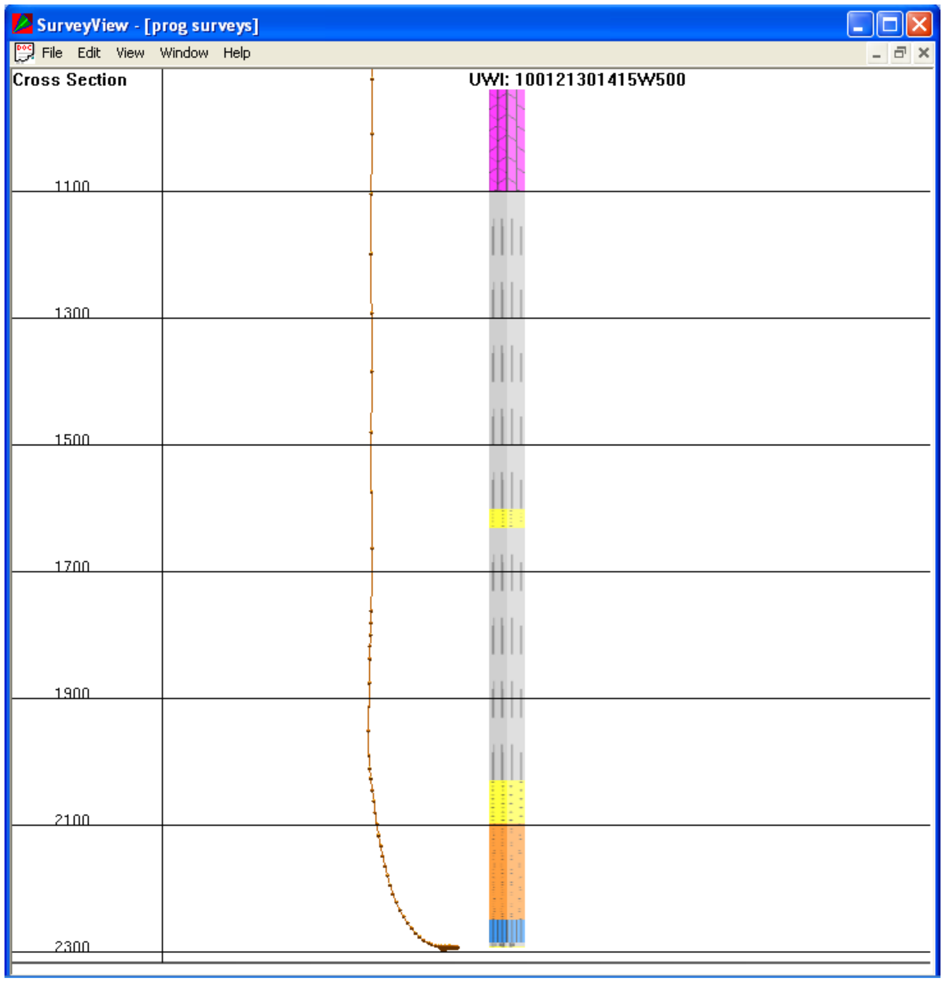
Cross Section view (isolated)



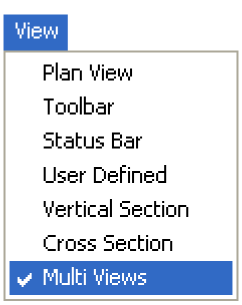
1. **Click** on the **Cross Section View** selection under the **View pull down menu** or **click** on the  **icon** on the **tool bar.** This will Isolate the plan view and make it bigger. This view is a display of the well bore at right angles to the Vertical Section indicated in the Survey window for the Master Survey group.
2. The user can then use the **scroll button** on the mouse to **zoom in or out** of the image (up scroll to zoom out and down scroll to zoom in). The user can also use the **up / down arrows** on the keypad to move the **image up or down** or the **left / right arrows** on the keypad to move the **image left or right**. In the User defined view the arrows do not apply but the user can use their mouse to rotate the view by **clicking and dragging within the view** to rotate the view**.**
3. **Click** on the **properties** selection under the **Edit pull down menu** or **right click** on the **image** and **select properties** this would activate the properties window where the user can change what is shown on the view but will be applicable to all views.

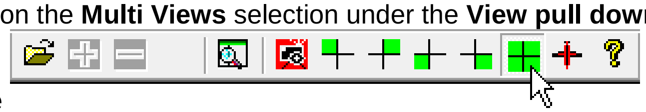


4. Once the view is set up the way you want you can save this by **Clicking** on the  **Icon** on the **tool bar** or the **Save Screen** Selection under the **File pull down menu.** This will save the screen capture and give you the ability to print it out on your striplog in all of our applications.

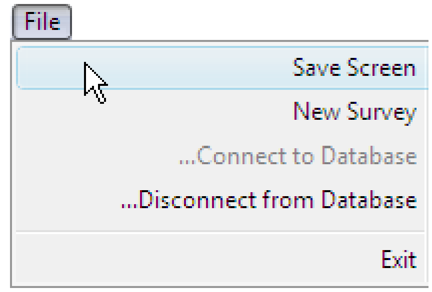


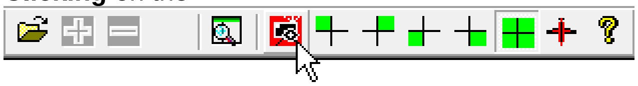
Multi Views

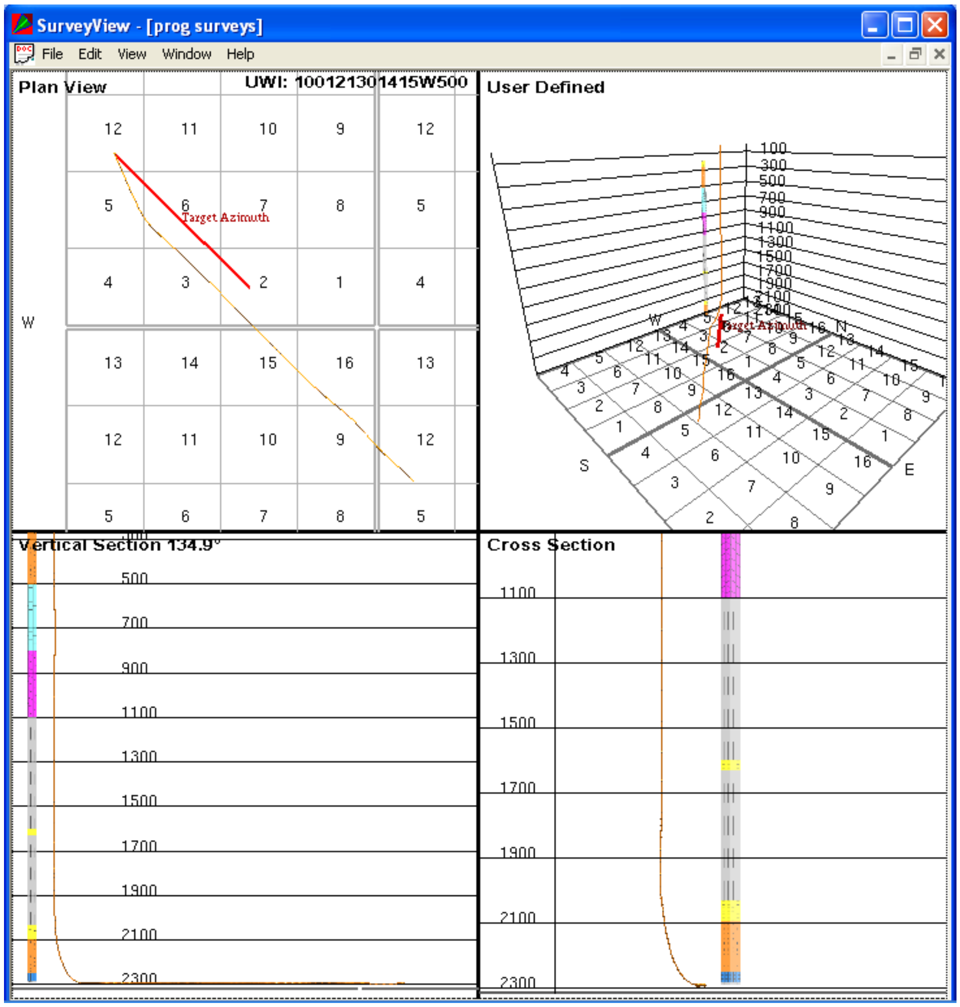


1. **Click** on the **Multi Views** selection under the **View pull down menu** or **click** on the  **icon** on the **tool bar.** This will Isolate the plan view and make it bigger. This view is a display of the well bore at right angles to the Vertical Section indicated in the Survey window for the Master Survey group.
2. The user must first click on the view he wishes to modify. In 3 of the 4 (except for User Defined) views the user can then use the **scroll button** on the mouse to **zoom in or out** of the image (up scroll to zoom out and down scroll to zoom in). The user can also use the **up / down arrows** on the keypad to move the **image up or down** or the **left / right arrows** on the keypad to move the **image left or right**.

3. **Click** on the **properties** selection under the **Edit pull down menu** or **right click** on the **image** and **select properties** this would activate the properties window where the user can change what is shown on the view but will be applicable to all views.



4. Once the views are set up the way you want you can save this by **Clicking** on the  **Icon** on the **tool bar** or the **Save Screen** Selection under the **File pull down menu.** This will save the screen capture and give you the ability to print it out on your striplog in all of our applications.



Window Menu

New Window

Use this command to start a new Auto Import Log.

The user must **click** on **New** located under the **Windows** menu selection on the main window to arrange multiple log history windows in a cascading manner.

Cascade

Use this command to arrange multiple opened windows in a non-overlapping, top to bottom fashion.

The user must **click** on **Cascade** located under the **Windows** menu selection on the main window to arrange multiple log history windows in a cascading manner.

Tile

Use this command to arrange multiple opened windows in a non-overlapping, side-by-side fashion.

The user must **click** on **Tile** located under the **Windows** menu selection on the main window to arrange multiple log history windows in a tiled manner.

Arrange Icons

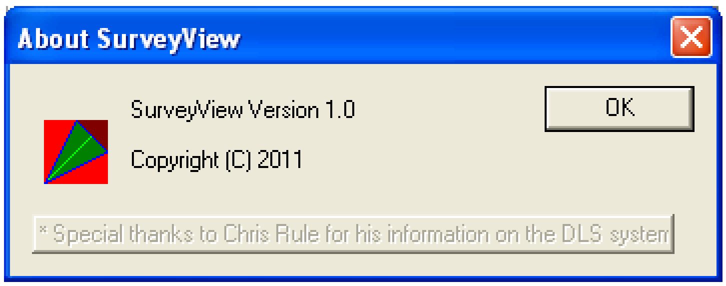
Use this command to arrange icons.

The user must **click** on **Arrange Icons** located under the **Windows** menu selection on the main window to arrange your icons.

Help Menu

About Survey View

1. The user must **click** on **About Survey View** located under the **Help** menu selection on the main window to activate the About window.



2. **Click** on the 

button to exit this window.